100% Guide

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PREFACE

Are you looking for a book that will help you to conquer all Mathematics and Quantitative questions into any secondary school of your choice and inevitably come out with an excellent result in this subject? Search no further for 100% Guide is the answer to your quest.

This book is a work born out of great passion for Mathematics on the part of the author who has being preparing pupils for admission into National and International Secondary Schools for years. As such, it has been carefully prepared and arranged to quench the unwholesome fear, pupils have entertained for Mathematics and Quantitative. It contains more than a decade of past common entrance questions in Mathematics and Quantitative with their simplified solutions and answers for easy understanding.

The good news is that all the Quantitative samples has been decoded in form of HINT attached to all the samples to enable pupils easily solve subsequent questions that follows. It has also been spiced with past questions on Science & Technology and Prevocational Aptitude Common Entrance past questions.

There is no gainsaying that this book will help you to apply the 5p's of study "Proper Preparation Prevent Poor Performance". I accept responsibility for the error in whatever form observable in the course of studying this book. Such error could have been due to typesetting and shall be corrected in subsequent editions.

Finally, may divine wisdom and understanding be granted to you as you study this book.

Okwuwe, J.C.

ACKNOWLEDGEMENT

I am most grateful to the Almighty God who supplied me with the wisdom and strength to put this work together. May His Divine name be glorified for all eternity.

I am also grateful to the following team of mathematicians who contributed immensely to the writing of this book viz; Mr. Adenekan Oluwamayowa, Mr. Onyilokwu Victor and Mr. Ileasanmi Nathaniel.

I also appreciate Mr. Edward Benjamin, Mr. Akpor God'spowe and Mr. Olagbami Akinropo for their effort in typesetting and proof-reading stage of this book.

I'm also grateful to the following for their moral support, Mr. Obasa Jonathan, Mrs. Edwards Opeyemi, Mr. Mordi Austin, Mr. Erebi John, Mr. Nurudeen Rahmon and of course my lovely wife Mrs. Okwuwe Happiness.

Finally, my indebt appreciation goes to all the professional examination bodies whose questions form the basis for writing this book.

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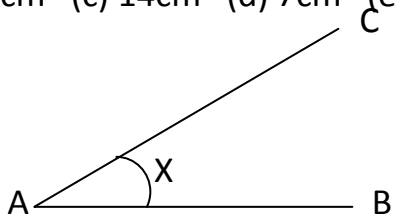
NATIONAL COMMON ENTRANCE EXAMINATION 2000

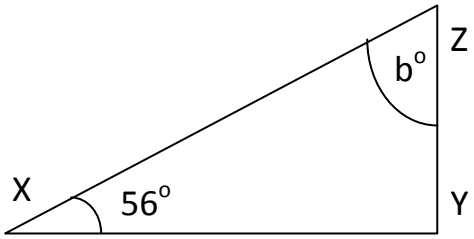
MATHEMATICS

1. A line that cuts a circle into two equal parts is called a (a) chord (b) circumference (c) diameter (d) radius (e) segment
2. Write in figures: four thousand, seven hundred and five. (a) 400,705 (b) 40,705 (c) 4,750 (d) 4,705 (e) 4,075
3. The prime numbers between 50 and 60 are _____ and _____ (a) 51, 53 (b) 51, 57 (c) 53, 55 (d) 53, 57 (e) 53, 59
4. Change 75% to decimal. (a) 75.0 (b) 7.5 (c) 0.75 (d) 0.075 (e) 0.0075
5. What is the place value of 4 in 1476.25? (a) thousandths (b) hundredths (c) tens (d) hundreds (e) thousands
6. Find the L.C.M of 18, 27 and 36. (a) 3 (b) 9 (c) 27 (d) 54 (e) 108
7. What is the product of 5.2 and 1.3? (a) 6.76 (b) 6.5 (c) 4.0 (d) 3.9 (e) 0.25
8. What angle do the hour and minute hands of a clock form when it is exactly 9.00pm? (a) 15^o (b) 30^o (c) 45^o (d) 60^o (e) 90^o
9. Express 615 in Roman numerals. (a) CDVX (b) CDXV (c) DCVX (d) DCXV (e) LDXV
10. Approximate 50, 769 to the nearest hundred. (a) 50,000 (b) 50,700 (c) 50,760 (d) 50,770 (e) 50,800
11. Find the average of 16, 50, 14, 20 and 40 (a) 28 (b) 50 (c) 70 (d) 140 (e) 8960000
12. If $x^2 = 169$, what is $x - 5$? (HINT: Use the positive value of x). (a) 8 (b) 13 (c) 18 (d) 164 (e) 174
13. Decrease N2,000 by 20% (a) N2,400.00 (b) N1980.00 (c) N1,800.00 (d) N1,600.00 (e) N200,00
14. Evaluate $6^2 - 5^2 + 5$ (a) 66 (b) 36 (c) 25 (d) 16 (e) 6
15. Find the rate percent which will yield simple interest of N25.00 on N200.00 for 2½ years. (a) 7½% (b) 5% (c) 2½% (d) $2^1/_5$% (e) $1^1/_5$%
16. Find the difference between $13^2/_5$ and $2^1/_3$ (a) $15^{11}/_{15}$ (b) 11½ (c) $11^6/_{15}$ (d) $11^1/_{15}$ (e) 11
17. The perimeter of a room is 24cm. If its length is 8cm, find the area. (a) 190cm^2 (b) 48cm^2 (c) 32cm^2 (d) 24cm^2 (e) 4cm^2

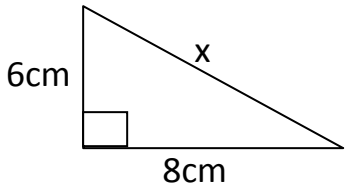
18. Akin and Ayo shared a sum of N2004.00 in the ration 5:1, find the amount Ayo received. (a) N1,670.00 (b) N1,002.00 (c) N501.00 (d) N400.00 (e) N334.00
19. What is the smallest number which has 5, 8, 12 as factors? (a) 24 (b) 26 (c) 36 (d) 48 (e) 72
20. Express 3105cm in meters. (a) 0.3105m (b) 3.105m (c) 31.05m (d) 31.10m (e) 310.5m
21. If 2t – 37 = 103. What is t? (a) 138 (b) 70 (c) 33 (d) -33 (e) -70
22. Josephine bought a bag of garri for N320.00 and sold it for N400.00. What was her percentage profit? (a) 20% (b) 25% (c) 40% (d) 75% (e) 80%
23. The area of a circle is 154cm^2. Calculate its radius. (Take $\pi = {}^{22}/_{7}$). (a) 49cm (b) 22cm (c) 14cm (d) 7cm (e) 3.5cm



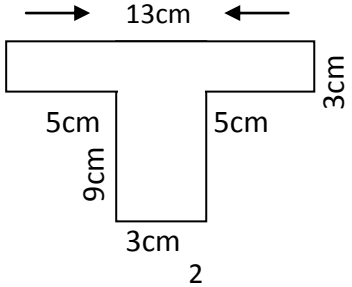
24. In the diagram above, angle X is a/an (a) acute angle (b) complementary angle (c) obtuse angle (d) right angle (e) supplementary
25. What is the value of angle b in the figure below? (a) 180 (b) 146 (c) 124 (d) 90 (e) 34



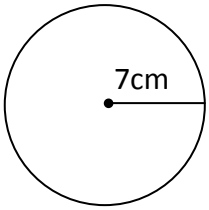
26. The value of the side marked X in the diagram below is _____ (a) 10cm (b) 14cm (c) 28cm (d) 48cm (e) 100cm



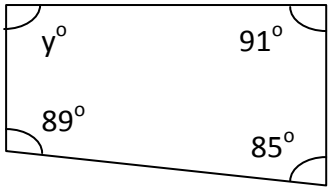
27. Find the area of the figure shown below. (a) 81cm^2 (b) 59cm^2 (c) 66cm^2 (d) 57cm^2 (e) 38cm^2



28. Express 315 as a percentage of 420. (a) 315% (b) 105% (c) 75% (d) 50% (e) 25%
29. Find the circumference of the figure below. (Take $\pi = {}^{22}/_{7}$). (a) 22cm (b) 24.5cm (c) 44cm (d) 77cm (e) 154cm



30. The three angles of a triangle are in the ratio 1:2:3, calculate the size of the smallest. (a) 150^{o} (b) 120^{o} (c) 90^{o} (d) 60^{o} (e) 30^{o}
31. What is the value of t in the equation? $\frac{42}{t} = \frac{21}{2}$ (a) 84 (b) 21 (c) 16 (d) 8 (e) 4
32. Calculate the diameter of a circle whose circumference is 77cm. (Take $\pi = {}^{22}/_{7}$). (a) 49.00cm (b) 24.50cm (c) 14.00cm (d) 12.25cm (e) 7.00cm
33. A man travels a distance of 84km in 1hr.20mins. Find his average speed. (a) 122km/h (b) 84km/h (c) 81km/h (d) 63km/h (e) 21km/h
34. A train left Kano on Monday at 9.05a.m and arrived Lagos on Tuesday at 12.00noon. How long did the journey take? (a) 26hrs.55mins (b) 25hrs.55mins (c) 25hrs.05mins (d) 24hrs.55mins (e) 23hrs.55mins
35. Multiply 0.0803 by 1,000. (a) 803003 (b) 80303 (c) 803 (d) 80.3 (e) 8.03
36. Calculate the size of the angle marked with letter y in the figure below. (a) 245 (b) 175 (c) 106 (d) 95 (e) 85



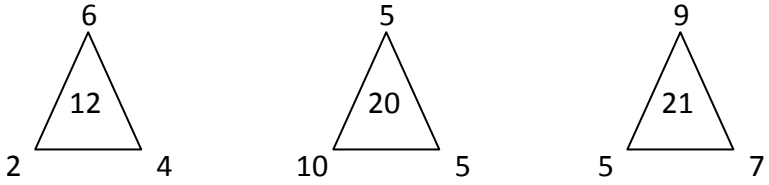
37. Two-fifth of a number is 23.2. Find the number. (a) 116.0 (b) 58.0 (c) 46.4 (d) 29.0 (e) 4.5
38. Simplify ½ x ${}^{1}/_{8} \div {}^{1}/_{24}$ (a) 384 (b) 3 (c) 1½ (d) ${}^{2}/_{3}$ (e) ${}^{1}/_{384}$
39. Find the sum of 16.423; 8.7 and 5.03. (a) 30.153 (b) 30.126 (c) 29.496 (d) 29.460 (e) 29.433
40. Divide 6.125 by 5. Give your answer to 2 places of decimal. (a) 1.25 (b) 1.23 (c) 1.22 (d) 1.20 (e) 1.00

GENERAL SCIENCE

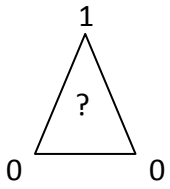
41. During cooking _____ energy is used. (a) chemical (b) electrical (c) heat (d) mechanical (e) solar
42. Which of the following protects the brain from damage? (a) backbone (b) muscle (c) rib-cage (d) skull (e) tendon
43. The joint found at the elbow is called _____ joint. (a) ball and socket (b) hinge (c) immovable (d) scapula (e) suture
44. The application of either manure, animal droppings or fertilizer _____ (a) broadens the leaves with less yield (b) causes weeds to replace crops (c) increase yields and soil fertility (d) lessens the farm's labour (e) reduces over-crowing of crops.
45. The beginning of a new life in plant is a process of _____ formation. (a) flower (b) fruit (c) leave (d) seed (e) stem
46. The process of making waste product useful again is referred to as _____ (a) moulding (b) recycling (c) replacing (d) reproducing (e) synthesis
47. Which of the following is a non-metal? (a) aluminium (b) gold (c) iron (d) plastic (e) zinc
48. The most important material for making cement is _____ (a) alum (b) clay (c) gypsum (d) limestone (e) rock
49. The instrument used for measuring air pressure is called a _____ (a) barometer (b) hydrometer (c) manometer (d) rain guage (e) thermometer
50. The process whereby the quantity of water reduces when heated for a long time is known as _____ (a) condensation (b) evaporation (c) filtration (d) purification (e) vapourization

QUANTITATIVE APTITUDE

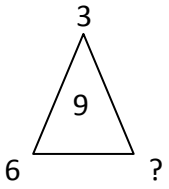
Sample:



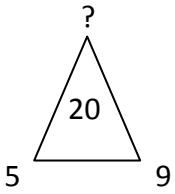
Find the relationship and use it to answer questions 1 to 4. (**Hint:** 6 + 2 + 4 = 12)

1. 

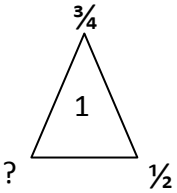
(a) 10 (b) 3 (c) 2 (d) 1 (e) 0

2. 

(a) 18 (b) 15 (c) 12 (d) 9 (e) 0

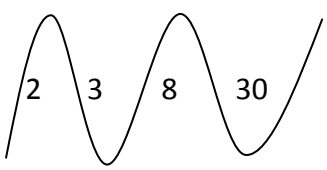
3. 

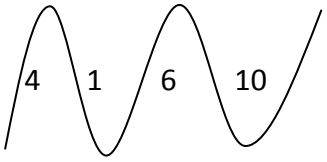
(a) 6 (b) 11 (c) 14 (d) 15 (e) 34

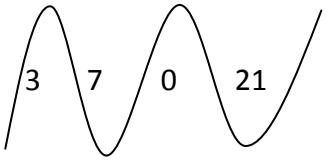
4. 

(a) 2½ (b) 2 (c) 1 (d) ½ (e) 1/4

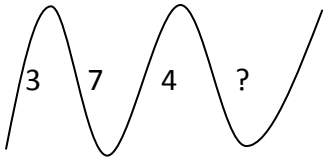
Study the samples below and use it to answer questions 5 to 8



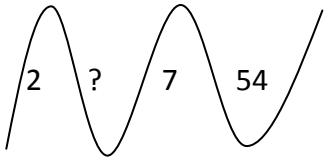




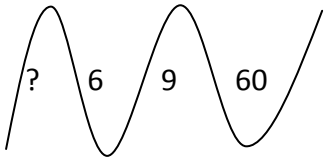
Hint: 3(2 + 8) = 30

5. 

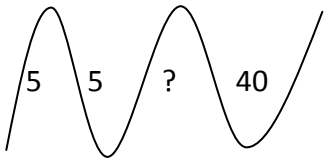
(a) 49 (b) 31 (c) 25 (d) 19 (e) 14

6. 

(a) 5 (b) 6 (c) 9 (d) 27 (e) 30

7. 

(a) 1 (b) 3 (c) 6 (d) 7 (e) 22

8. 

(a) $2^2/_3$ (b) 3 (c) 5 (d) 8 (e) 25

If $F_1 = 1$, $F_2 = 12$, $F_3 = 123$, $F_4 = 1234$, and so on then $F_2 + F_4 = 12 + 1234$.

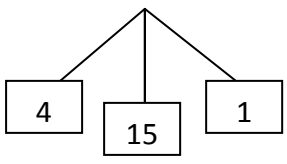
Study the sample above and use it to answer questions 9 – 11

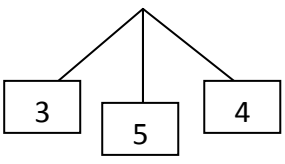
9. $F_1 + F_3 = ? + 123$ (a) 5 (b) 4 (c) 3 (d) 2 (e) 1

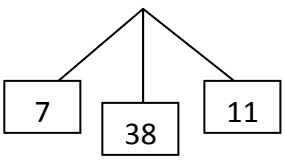
10. $F_3 + F_4 = 123 + 12?4$ (a) 5 (b) 4 (c) 3 (d) 2 (e) 1

11. $F_9 + ? = 123456 + 1234567$ (a) F_4 (b) F_5 (c) F_6 (d) F_7 (e) F_8

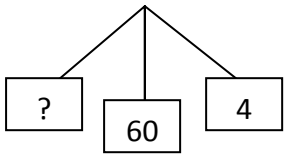
Sample:



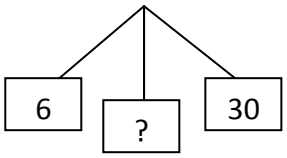




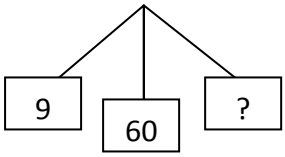
Find the relationship and use it to answer questions 12 to 15. **Hint:** $4^2 - 1 = 15$

12. 

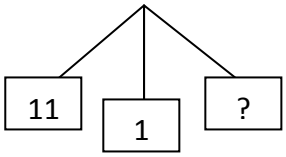
(a) 14 (b) 12 (c) 10 (d) 8 (e) 64

13. 

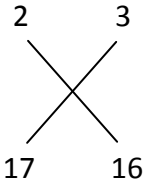
(a) 4 (b) 6 (c) 8 (d) 10 (e) 36

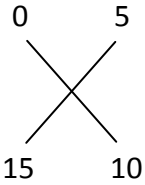
14. 

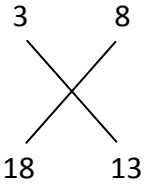
(a) 17 (b) 19 (c) 21 (d) 23 (e) 69

15. 

(a) 140 (b) 120 (c) 100 (d) 10 (e) 12

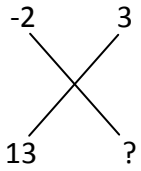
Sample: 



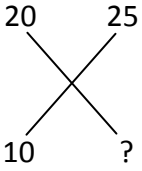


Hint: 17 – 3 + 2 = 16

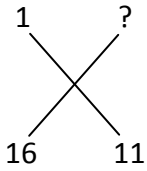
Find the relationship and use it to answer questions 16 to 19

16. 

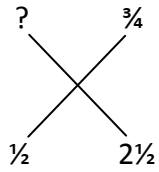
(a) 18 (b) 14 (c) 8 (d) 7 (e) 5

17. 

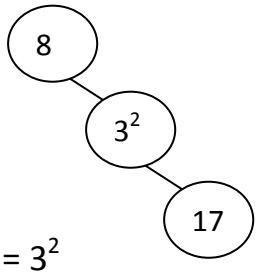
(a) 5 (b) 10 (c) 30 (d) 35 (e) -

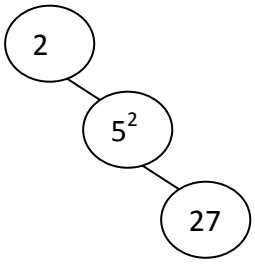
18. 

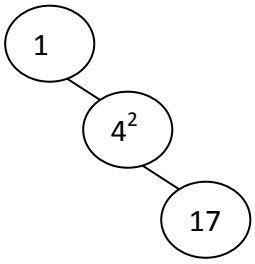
(a) 0 (b) 4 (c) 5 (d) 6 (e) 16

19. 

(a) 3 (b) 2 ¾ (c) - (d) – ¼ (e)

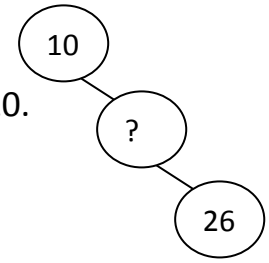
Sample: 



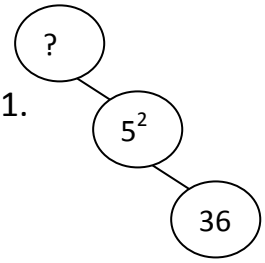


Hint: $17 - 8 = 3^2$

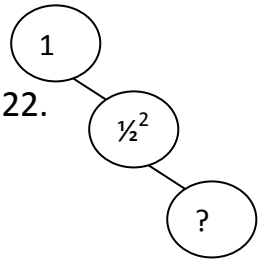
Find the relationship and use it to answer questions 20 to 22

20. 

(a) 6^2
(b) 5^2
(c) 4^2
(d) 3^2
(e) 2^2

21. 

(a) 25
(b) 14
(c) 13
(d) 11
(e) 9

22. 

(a) 5
(b) 2
(c) 1¼
(d) ¾
(e) ¼

If the word PLEASANT is represented by the number 56781843. Use this to answer questions 23 to 26.

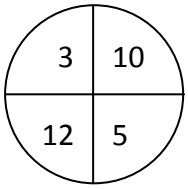
23. What number is represented by the word STATE? (a) 13786 (b) 13837 (c) 13867 (d) 16837 (e) 16843

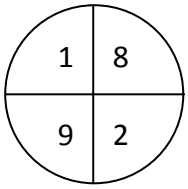
24. What word is represented by the number 37817? (a) TAPES (b) TASSEL (c) TEASE (d) TENSE (e) TEST

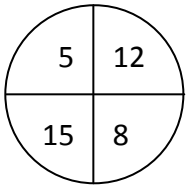
25. What word is represented by the number 5867? (a) PALE (b) PALL (c) PANE (d) PEAL (e) PEEP

26. What number is represented by the word SLEEP? (a) 15757 (b) 15775 (c) 16577 (d) 16757 (e) 16775

Sample:



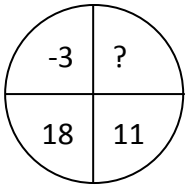




Hint: 10 + 5 – 12 = 3

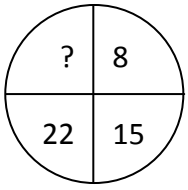
Find the relationship and use it to answer questions 27 to 30

27.



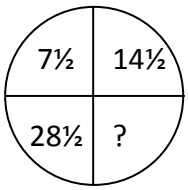
(a) 25 (b) 10 (c) 4 (d) -10 (e) -18

28.



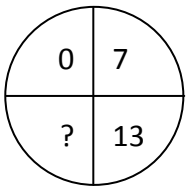
(a) 29 (b) 23 (c) 14 (d) 1 (e) 0

29.



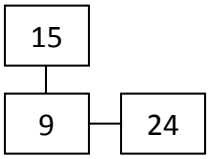
(a) 35½ (b) 22 (c) 21½ (d) 14½ (e) 0

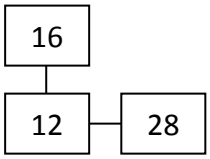
30.



(a) 6 (b) 7 (c) 13 (d) 20 (e)

Sample:

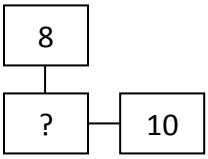




(**Hint:** 15 + 9 = 24)

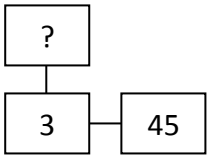
Find the relationship and use it to answer questions 31 to 33

31.



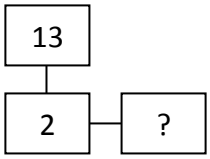
(a) 2
(b) 4
(c) 6
(d) 8
(e) 10

32.



(a) 12
(b) 18
(c) 21
(d) 42
(e) 78

33.



(a) 0
(b) 2
(c) 10
(d) 11
(e) 15

Sample:

4	10
2	5

2	1
6	3

7	21
2	6

Hint: 2 x 10 = 4 x 5

Find the relationship and use it to answer questions 34 to 36

34.

?	16
6	12

(a) - (b) 8 (c) 9 (d) 10 (e) 12

35.

8	?
4	7

(a) 32 (b) 28 (c) 15 (d) 14 (e) 6

36.

3	9
?	12

(a) 4 (b) 6 (c) 9 (d) 21 (e) 24

Sample: $15 \vee 5 = 15 + 5 = 20$ $15 \wedge 5 = 15 \div 5 = 3$

Find the relationship and use it to answer questions 37 to 40

37. $\frac{48 \wedge 6}{6 \vee 2}$ (a) 18 (b) 13½ (c) $6^2/_3$ (d) $2^2/_3$ (e) 1

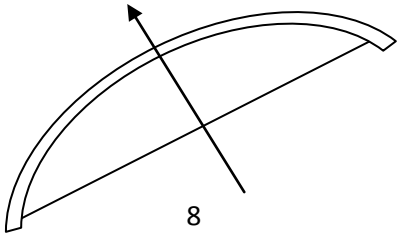
38. $(25 \vee 10) \wedge 5$ (a) 50 (b) 7½ (c) 7 (d) 5 (e) $1^1/_5$

39. $(60 \vee 12) \vee 6$ (a) 78 (b) 12 (c) 11 (d) 1¼ (e) $1^1/_5$

40. $\frac{1 \wedge 4}{1 \wedge 3}$ (a) ¾ (b) $^7/_{12}$ (c) $^4/_5$ (d) 1¼ (e) $1^1/_3$

VOCATIONAL APTITUDE

41. Which of the following parts is common to hand tools? (a) blade (b) handle (b) head (d) jaw (e) tung
42. The person who handles tooth related problems in a hospital is called a/an ___ (a) dentist (b) nurse (c) optician (d) pharmacist (e) psychiatrist
43. The terms STITCHES is mostly associated with _____ (a) building (b) cookery (c) modeling (d) tailoring (e) welding
44. The diagram shown below is mostly used by _____ (a) cobblers (b) designers (c) farmers (d) fishermen (e) hunters.

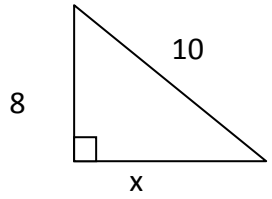


45. The damaged metal door in our school was mended by a _____ (a) black smith (b) carpenter (c) mechanic (d) panel beater (e) welder
46. Hoes, cutlasses and knives are produced by _____ (a) black smith (b) farmers (c) gold smith (d) hunter (e) labourers
47. Photographs are taken using a _____ (a) binocular (b) camera (c) projector (d) television (e) video
48. Ceramics are produced from (a) clay (b) metal (c) plastic (d) rubber (e) wood
49. For each reader his book, each writer his pen and each _____ his gun. (a) black smith (b) hunter (c) mechanic (d) tailor (e) trader.
50. People who use finished products are called _____ (a) consumers (b) marketers (c) middlemen (d) retailers (e) wholesalers

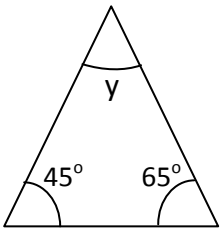
NATIONAL COMMON ENTRANCE EXAMINATION 2001

MATHEMATICS

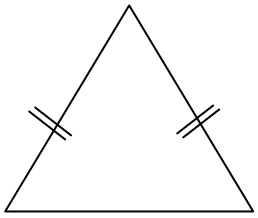
1. Simplify 1½ of ¼ + 5½ ÷ ¾ (a) $4^{13}/_{32}$ (b) $6^{15}/_{32}$ (c) $7^{17}/_{24}$ (d) $7^{5}/_{6}$ (e) 11½
2. If 2x – 7 = 21, what is the value of x? (a) 147 (b) 28 (c) 24 (d) 14 (e) 7
3. The _____ of a quadrilateral is the line drawn from one angle to the opposite angle. (a) breadth (b) diagonal (c) height (d) length (e) line of symmetry
4. What is the product of LCM and HCF of the following numbers – 12, 9 and 15? (a) 3 (b) 5 (c) 180 (d) 360 (e) 540
5. In the figure below, calculate the value of x. (a) 164 (b) 36 (c) $\sqrt{164}$ (c) $\sqrt{180}$ (e) 6



6. If r = 4, s = 3, r = 2. Find the value of $\frac{3r+s-t}{2}$ (a) 2 (b) 4 (c) 6 ½ (d) 8 ½ (e) 13
7. Express in figures the Roman numeral MCDIX. (a) 1609 (b) 1490 (c) 1409 (d) 1299 (e) 1099
8. Find the value of y in the figure below. (a) 150^{o} (b) 110^{o} (c) 80^{o} (d) 70^{o} (e) 65^{o}

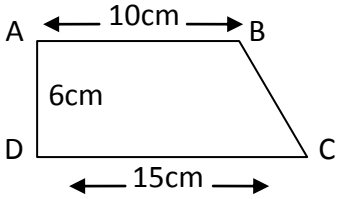


9. How many pieces of wire 25cm long can be cut from a roll 6 meters long? (a) $2\ ^{2}/_{5}$ (b) 12 (c) 19 (d) 24 (e) 30
10. If $^{A}/_{5} = {}^{60}/_{4}$, what is the value of A? (a) 30 (b) 35 (c) 45 (d) 75 (e) 80
11. How many lines of symmetry are there in the figure below? (a) 1 (b) 2 (c) 3 (d) 4 (e) 6



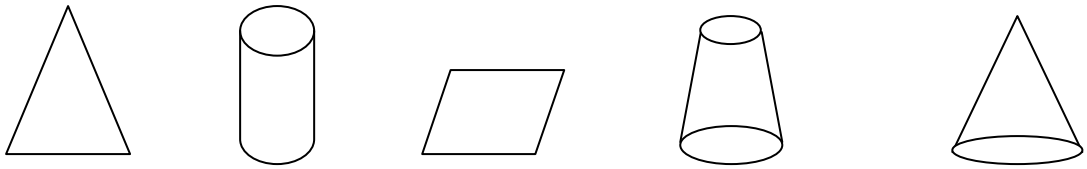
12. What is the sum of the place values of 2 and 1 in the number 4219? (a) 3 (b) 21 (c) 210 (d) 2010 (e) 2100

13. The amount of liquid a container can hold is called the capacity and the amount of space it occupies is called its _____ (a) area (b) breadth (c) space (d) length (e) volume
14. If N240 is to be shared between Iyene and Inokon in the ration 2:3. In how many equal parts will the money be shared? (a) 1 (b) 5 (c) 6 (d) 56 (e) 140
15. Mr. Kolo bought 5 crates of 30 bottles of Fanta each. On the way home, he drank 5 bottles and broke 25 bottles. What percentage of crates is left? (a) 20% (b) 25% (c) 30% (d) 75% (e) 80%
16. A woman bought 200 oranges and sold 40% of them on the market day. How many oranges would she have left? (a) 20 oranges (b) 50 oranges (c) 120 oranges (d) 160 oranges (e) 240 oranges
17. In one minute, a snail crawled 45cm. How fast can it crawl in one second? (a) 1.8cm/s (b) 1.5cm/s (c) 1.1cm/s (d) 0.9cm/s (e) 0.75cm/s
18. What must be added to two hundred and fifty nine to obtain nine hundred and seventy eight? (a) 1237 (b) 781 (c) 729 (d) 721 (e) 719
19. Ade and Afeez were given N600.00 to buy their clothes. Afeez gets N120.00 more than Ade, how much does each get respectively? (a) N380.00; N260.00 (b) N300.00; N300.00 (c) N240.00; N360.00 (d) N180.00; N420.00 (e) N120.00; N480.00
20. Find the area of the trapezium ABCD drawn below. (a) 31cm^2 (b) 75cm^2 (c) 105cm^2 (d) 120cm^2 (e) 150cm^2



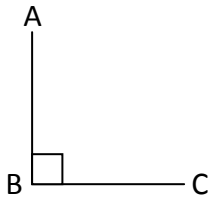
21. What is the place value of 7 in the number 345.79? (a) 7 hundreds (b) 7 tens (c) 7 units (d) 7 tenths (e) 7 hundredths
22. How many centimeter squares are there in a rectangle of 10cm by 5cm? (a) 105 (b) 50 (c) 15 (d) 2 (e) ½
23. 10 minutes past 8 should be written as ____ (a) 1:08 (b) 1:80 (c) 8:10 (d) 10:8 (e) 81:0

24. Which of these shapes is a cone? (a) V (b) IV (c) III (d) II (e) I



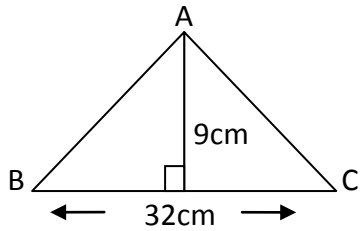
I II III IV V

25. The two lines meet to form _____ (a) an acute angle (b) an obtuse angle (c) a reflex angle (d) a right angle (e) a triangle

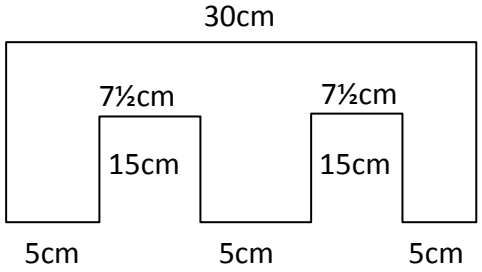


26. The factors of 6 are _____ (a) 1, 2, 3, 0 (b) 1, 2, 3, 6 (c) 1, 2, 4 (d) 1, 2, 5 (e) 1, 3, 6
27. A man bought oranges at 12 for N30.00 and sold them at one for N3.00. What was his gain percentage? (a) 25% (b) 20% (c) 15% (d) 12% (e) 10%
28. If I multiply the sum of 632 and 1803 by zero, what will be my result? (a) 0 (b) 1171 (c) 1231 (d) 1435 (e) 2435
29. Six houses on a street use an average of 47 litres of water daily. How many litres of water do they use in a week? (a) 1974 litres (b) 1947 litres (c) 1920 litres (d) 329 litres (e) 282 litres
30. A plane figure bounded by four sides is called _____ (a) pentagon (b) hexagon (c) triangle (d) decagon (e) quadrilateral
31. If $x^2 + 9 = 25$, what is the positive value of x? (a) 3 (b) 4 (c) 5 (d) 8 (e) 16
32. Which is the greatest of these fractions: $^1/_{10}$, $^2/_5$, $^3/_8$, $^3/_{20}$ and ¾? (a) $^1/_{10}$ (b) $^3/_{20}$ (c) $^3/_8$ (d) $^2/_5$ (e) ¾
33. Yinka and Okey are 10 years and 12 years respectively. If N55.00 was shared between them using the ratio of their ages, how much did Okey get? (a) N22.00 (b) N22.50 (c) N25.00 (d) N30.00 (e) N55.00
34. What is the smallest number that can be divided exactly by 3, 5 and 7? (a) 15 (b) 35 (c) 36 (d) 56 (e) 105

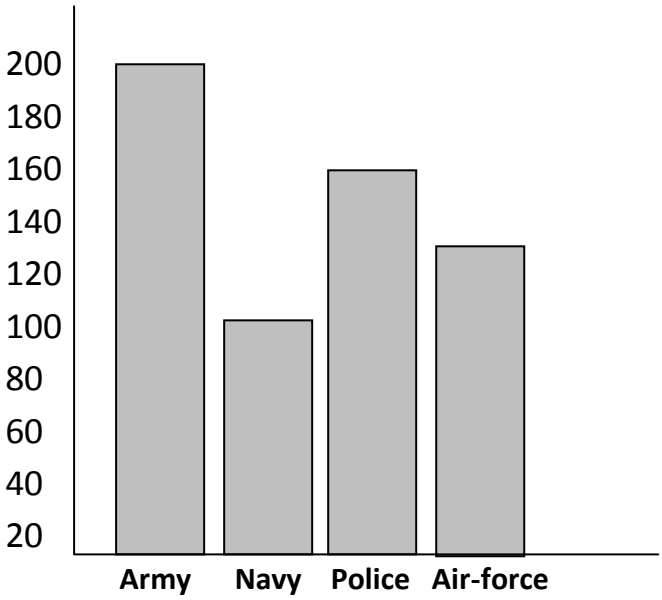
35. Calculate the area of the triangle below if its height is 9cm. (a) 23cm^2 (b) 41cm^2 (c) 144cm^2 (d) 280cm^2 (e) 288cm^2



36. Find the perimeter of the shape below. (a) 100cm (b) 115cm (c) 130cm (d) 160cm (e) 180cm



37. A train traveled a distance of 270km in 45 minutes. At what speed did it travel? (a) 360km/h (b) 235km/h (c) 225km/h (d) 8km/h (e) 6km/h



Use the above bar chart to answer questions 38 – 40.

38. How many men are there in the Army more than in the Police? (a) 200 (b) 100 (c) 60 (d) 40 (e) 20

39. What is the total population of men in the Army, Air force and Navy altogether? (a) 440 (b) 420 (c) 240 (d) 220 (e) 200

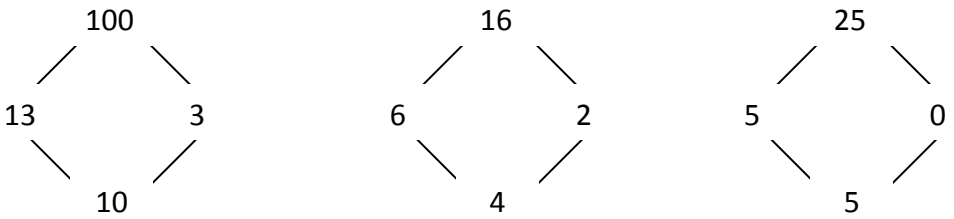
40. From the above bar chart, which of the forces is most populated? (a) Air-force (b) Army (c) Custom office (d) Police (e) Navy

GENERAL SCIENCE

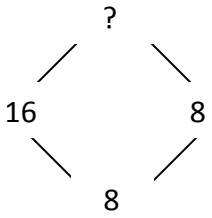
41. One of the living things found inside the soil is _____ (a) butterfly (b) cockroach (c) earthworm (d) housefly (e) grasshopper
42. Which of the following protects the brain from damage? (a) backbone (b) muscle (c) rib-cage (d) skull (e) tendon
43. To get a solution _____ (a) coloured chalk is used (b) powdered substance are prepared (c) solute must dissolve completely in solvent (e) water must be very hot
44. What shape makes a glider to move faster? (a) broad (b) curved (c) oval (d) rectangular (e) streamlined
45. The instrument used for measuring air pressure is known as ___ (a) barometer (b) galvanometer (c) hydrometer (d) speedometer (e) thermometer
46. If a child's stool shows mucus or blood stains, then the child is suffering from _____ (a) dysentery (b) kwashiorkor (c) measles (d) meningitis (e) scabies
47. The following birds are domesticated EXCEPT ____ (a) chicken (b) duck (c) pigeon (d) turkey (e) vulture
48. Local soap can be made by mixing ___ (a) Banana ashes and groundnut oil (b) Palm-oil and banana ashes (c) Petrol and palm-oil (d) Sheanut oil and wood ashes (e) Water and paper ashes
49. The smallest and closest planet to the sun is the _____ (a) earth (b) Jupiter (c) mars (d) mercury (e) Saturn
50. A type of simple machine commonly used to draw water from well is called ___ (a) effort (b) fulcrum (c) fan (d) load (e) pulley

QUANTITATIVE APTITUDE

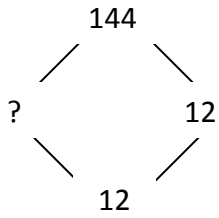
Sample:



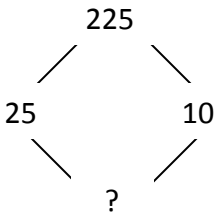
Study the relationship between the numbers in the following samples and use it to answer questions 1 -4. (**Hint:** $10^2 = 100$, $13 - 3 = 10$)

1. 

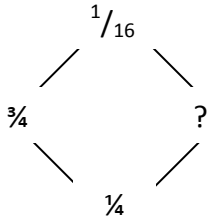
(a) 32 (b) 54 (c) 64 (d) 74 (e) 84

2. 

(a) 36 (b) 24 (c) 18 (d) 16 (e) 12

3. 

(a) 9 (b) 12 (c) 13 (d) 15 (e) 35

4. 

(a) $^1/_6$ (b) $^1/_8$ (c) ½ (d) $^2/_3$ (e) ¾

Study the relationship carefully and use it to answer questions 5 – 7.

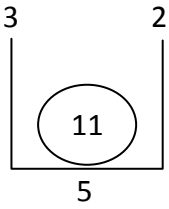
2 * 4 = 4, 6 * 5 = 15, 6 * 8 = 24

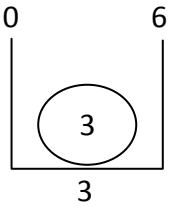
5. Find the value of 6 * 9. (a) 3 (b) 9 (c) 12 (d) 27 (e) 36

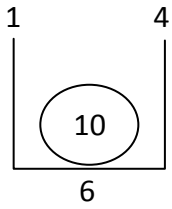
6. Find the value in the empty box. ☐ * 12 = 48 (a) 2 (b) 4 (c) 8 (d) 16 (e) 24

7. Find the value of (3 * 2) * 4. (a) 4 (b) 6 (c) 12 (d) 24 (e) 36

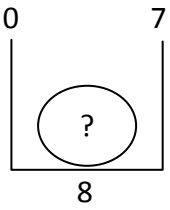
Sample:



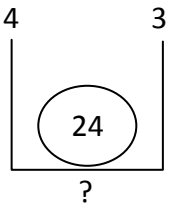




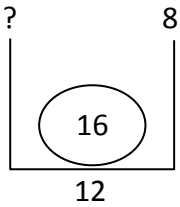
Study the relationship between the numbers in the following samples and use it to answer questions 8 – 100. (**Hint:** 3 x 2 + 5 = 11)

8. 

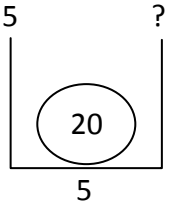
(a) 15 (b) 9 (c) 8 (d) 7 (e) 1

9. 

(a) 6 (b) 8 (c) 12 (d) 14 (e) 17

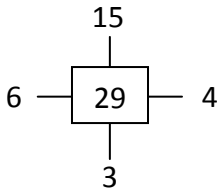
10. 

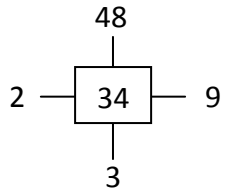
(a) 4 (b) 2 (c) ¾ (d) $^2/_3$ (e) ½

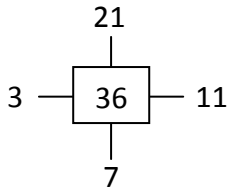
11. 

(a) 3 (b) 4 (c) 5 (d) 6 (e) 7

Sample:

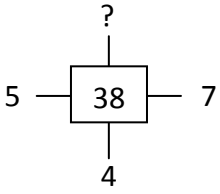






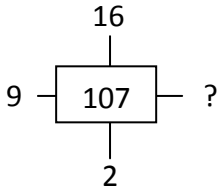
Find the relationship in the samples above and use it to answer questions 12 – 15. (**Hint:** 6 x 4 + $^{15}/_{3}$ = 29)

12.



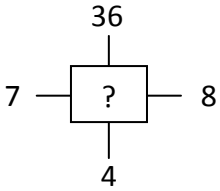
(a) 8 (b) 12 (c) 13 (d) 22 (e) 27

13.



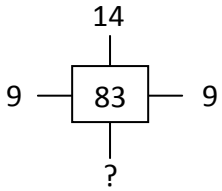
(a) 11 (b) 14 (c) 17 (d) 35 (e) 49

14.



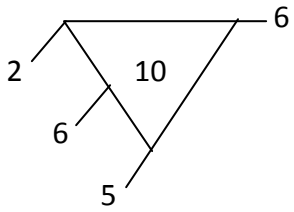
(a) 31 (b) 33 (c) 55 (d) 65 (e) 88

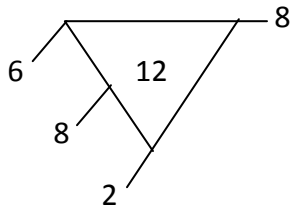
15.

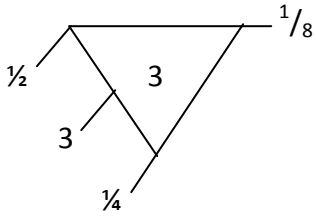


(a) 4 (b) 7 (c) 14 (d) 32 (e) 50

Sample:

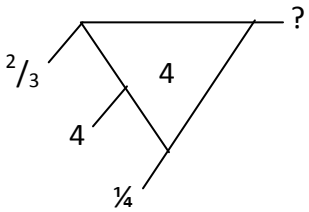






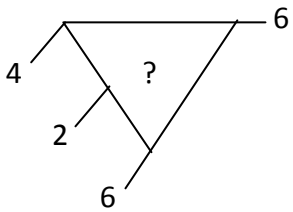
Study the relationship between the numbers in the following samples and answer question 16 – 19. (**Hint:** 2 x 6 x 5 = 10 x 6)

16.



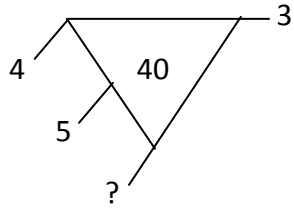
(a) 6 (b) 4 (c) $^{2}/_{3}$ (d) ¼ (e) $^{1}/_{6}$

17.



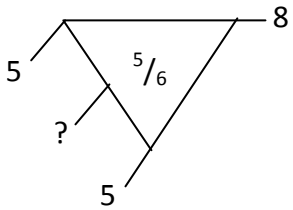
(a) ¾ (b) $1^{1}/_{5}$ (c) 2 (d) 4 (e) 8

18.



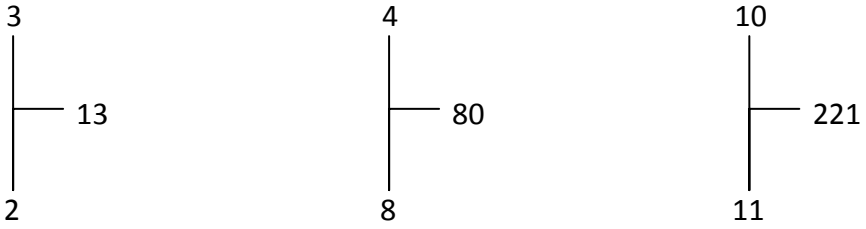
(a) 25 (b) 6 (c) 3 (d) $^{3}/_{8}$ (e) $^{1}/_{3}$

19.



(a) $^{1}/_{3}$ (b) $5^{1}/_{3}$ (c) $6^{2}/_{3}$ (d) 8 (e) 72

Sample:

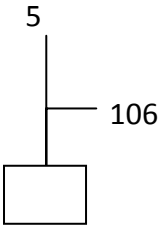


Study the patters carefully and use it to answer questions 20 and 21.

(**Hint:** $3^2 + 2^2 = 13$)

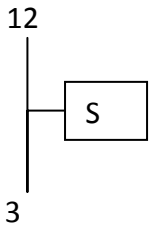
20. Find the missing value in the diagram.

(a) 9 (b) 81 (c) 101 (d) 111 (e) 530



21. What is the value of S in the diagram?

(a) 1 (b) 25 (c) 144 (d) 169 (e) 313



Samples: $2 \wedge 3 = 2 + (2 \times 3) = 8$

$1 \wedge 4 = 1 + (1 \times 4) = 5$

$3 \vee 2 = (3 \times 2) - 2 = 4$

$4 \vee 1 = (4 \times 1) - 1 = 3$

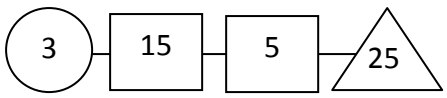
22. $5 \wedge 4 =$ (a) 9 (b) 15 (c) 20 (d) 25 (e) 100

23. $7 \vee 3 =$ (a) 4 (b) 10 (c) 18 (d) 28 (e) 63

24. $\frac{2 \wedge 6}{3 \vee 4} =$ (a) ¾ (b) $^{14}/_{15}$ (c) 1 (d) 1¾ (e) 4

25. $\frac{7 \vee 5}{2 \wedge 1} =$ (a) 42 (b) 17½ (c) 7½ (d) 6 (e) 2

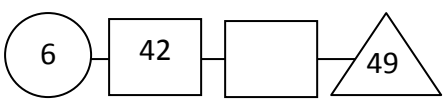
Sample:



Study the above carefully and use it to answer questions 26 and 27.

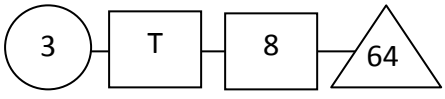
(**Hint:** $3 \times 5 = 15$, $5^2 = 25$)

26.



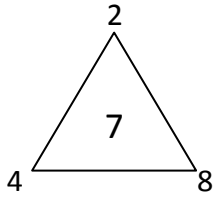
(a) 252 (b) 91 (c) 54 (d) 48 (e) 7

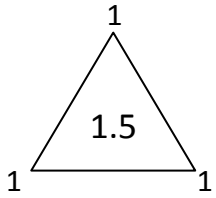
27.

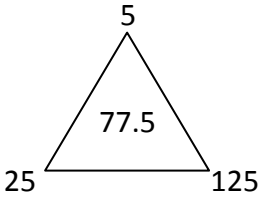


(a) 11 (b) 24 (c) $31^1/_3$ (d) 72 (e) 75

Samples:

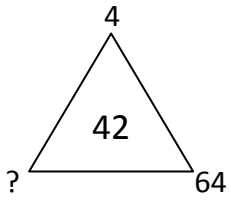






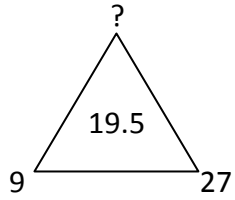
Hint: $\frac{2+4+8}{2} = 7$

28.



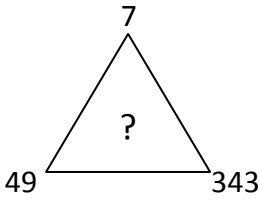
(a) 110 (b) 84 (c) 16 (d) 8 (e) $6^2/_{21}$

29.



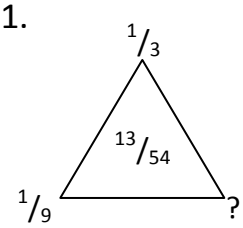
(a) 3.0 (b) 6.5 (c) 16.5 (d) 55.5 (e) 81.0

30.



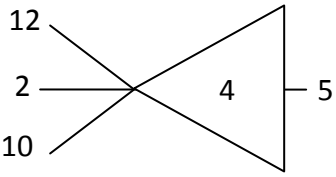
(a) 143.5
(b) 199.5
(c) 287.0
(d) 399.0
(e) 2401.0

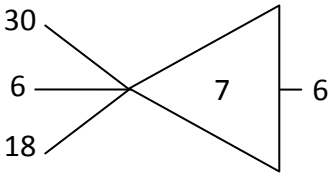
31.

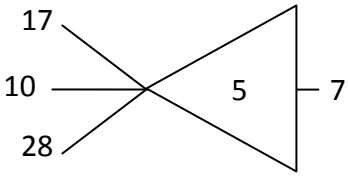


(a) $^2/_3$
(b) $^{13}/_{27}$
(c) $^{13}/_{81}$
(d) $^1/_{27}$
(e) $^1/_{81}$

Samples:



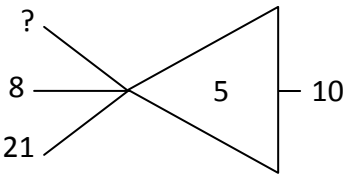




Find the relationship in the samples above and use it to answer questions 32 to 35.

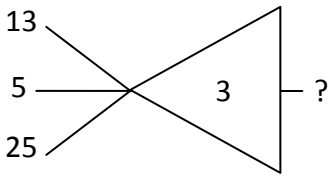
(**Hint:** 12 – 2 + 10 = 4 x 5)

32.



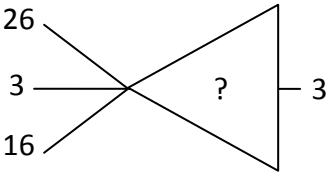
(a) 37 (b) 44 (c)63 (d) 79 (e) 87

33.



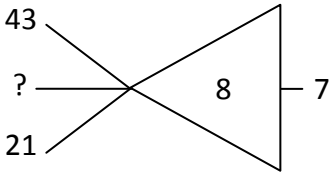
(a) 5 (b) 7 (c) 11 (d) 14 (e) 20

34.



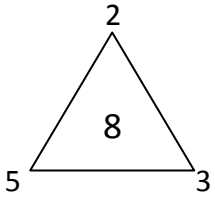
(a) 4 (b) 10 (c) 11 (d) 13 (e) 16

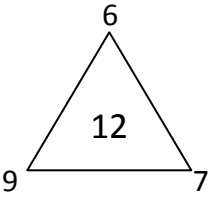
35.

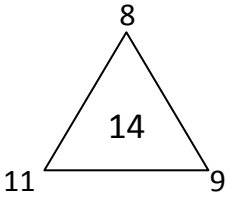


(a) 7 (b) 8 (c) 15 (d) 23 (e)

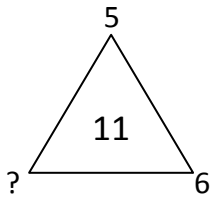
Samples:



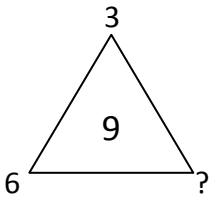




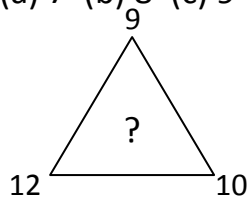
Hint: Difference in each sides are 1, 2, 3

36. 

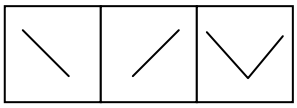
(a) 7 (b) 8 (c) 9 (d) 10 (e) 12

37. 

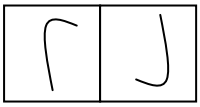
(a) 4 (b) 5 (c) 6 (d) 7 (e) 8

38. 

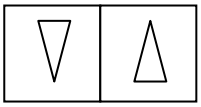
(a) 13 (b) 14 (c) 15 (d) 16 (e) 17

Sample: 

Which shape in the given options is the best combination of the given two shapes in number 39 and 40?

39. 

(a) 
(b) 
(c) 
(d) 
(e) 

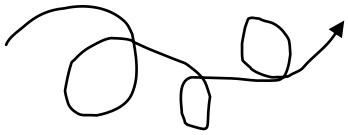
40. 

(a) 
(b) 
(c) 
(d) 
(e) 

VACATIONAL APTITUDE

41. Salting is the most suitable method for preserving _____ (a) kolanuts (b) meat (c) oranges (d) tomatoes (e) vegetables
42. A wood carver uses all the following tools EXCEPT ____ (a) axe (b) chisel (c) machete (d) saw (e) spade
43. A piece of material used by a shoe maker to attract nails must be ____ (a) bronze (b) copper (c) glass (d) magnet (e) stone
44. Electrical wiring in the house is done by the ____ (a) blacksmith (b) carpenter (c) electrician (d) mechanic (e) welder
45. Any substance which can be used to change the colour of a cloth is called ____ (a) coolant (b) dye (c) fluid (d) grease (e) paint

46. People who produce goods are called _____ (a) consumers (b) manufacturers (c) marketers (d) retailers (e) wholesalers
47. The material used in moulding pots is called ___ (a) clay (b) cement (c) glass (d) plastic (e) rubber
48. A farmer uses all the following tools EXCEPT a/an ____ (a) axe (b) cutlass (c) jack (d) rake (e) sickle
49. A spanner is used by all the following professions EXCEPT the ____ (a) bricklayer (b) electrician (c) mechanic (d) plumber (e) tailor
50. The tool shown below is commonly used by a _____ (a) carpenter (b) cobbler (c) farmer (d) fisherman (e) hunter.

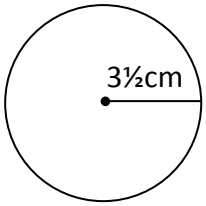


NATIONAL COMMON ENTRANCE EXAMINATION 2002

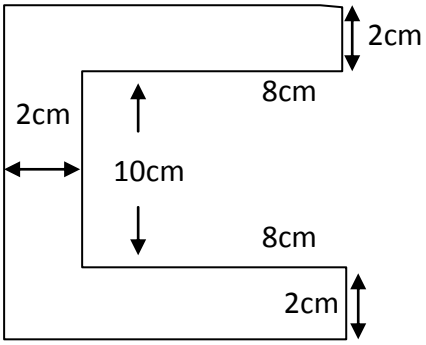
MATHEMATICS

1. Express the Roman numerals CMIX in Arabic. (a) 1011 (b) 1009 (c) 999 (d) 911 (e) 909
2. A line that divides a square into equal parts is called a/an (a) chord (b) diameter (c) imaginary line (d) line of symmetry (e) segment
3. Find the sum of 0.883, 12.09, 4.2 and 8.1324. (a) 25.3054 (b) 25.305 (c) 25.304 (d) 25.303 (e) 24.3054
4. If today is Tuesday, what do of the week will two weeks four days time be? (a) Friday (b) Saturday (c) Sunday (c) Thursday (e) Wednesday
5. Express 2.025m in centimeters. (a) 20.25cm (b) 202.5cm (c) 2025cm (d) 20250cm (e) 202500cm
6. Multiply 0.105 by 4.2 (a) 4.410 (b) 0.441 (c) 0.0441 (d) 0.00441 (e) 0.000441
7. Three-sevenths of a number is 15, find the number. (a) 35 (b) 24 (c) 15 (d) $6^{3}/_{7}$ (e) 5
8. Approximate 71,089 to the nearest thousand. (a) 71,100 (b) 71,090 (c) 71,080 (d) 71,009 (e) 71,000
9. What is the value of 45% of 200? (a) 45 (b) 60 (c) 90 (d) 100 (e) 145
10. Simplify ½ - ¼ + $1^{2}/_{3}$ (a) $^{23}/_{12}$ (b) $^{13}/_{9}$ (c) $^{17}/_{12}$ (d) $^{17}/_{13}$ (e) $^{23}/_{12}$
11. What is the time when the long and short hands of a clock is on eleven and two respectively? (a) Eleven minutes after two (b) Eleven minutes to two (c) Fifty-five minutes to two (d) Five minutes to two (e) Two minutes after eleven
12. Increase N7,500 by 15% (a) N8,625 (b) N7,515 (c) N7,485 (d) N6,375 (e) N1,125
13. What is the place value of 4 in 256741? (a) hundreds (b) tens (c) tenth (d) hundredth (e) thousandth
14. Write 8065 in words. (a) eight hundred and sixty five (b) eight thousand and sixty five (c) eight thousand six hundred and five (d) eight thousand zero and sixty five (e) eight zero six five
15. Find the value of 1½ of 4½ and divide the result by 2¼ (a) 13½ (b) 7 (c) 6 (d) $2^{2}/_{3}$ (e) $^{2}/_{3}$

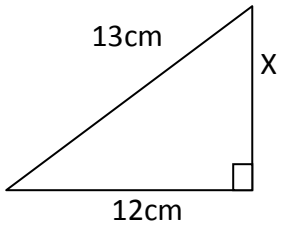
16. If the ratio of three angles triangle is 2:3:4; the size of the largest angle is (a) 40^o (b) 50^o (c) 60^o (d) 70^o (e) 80^o
17. If y – 5 = 3, what is y? (a) 64 (b) 25 (c) 9 (d) 8 (e) 4
18. Find the area of the circle. (Take π = 22/7). (a) $11cm^2$ (b) $22cm^2$ (c) $38.5cm^2$ (d) $5cm^2$ (e) $44cm^2$



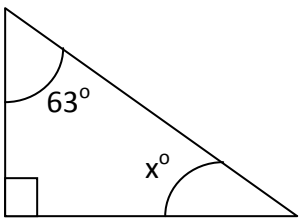
19. Calculate the product of 6.12 and 1.4. (a) 856.8 (b) 85.68 (c) 30.60 (d) 8.568 (e) 3.06
20. Convert 55% to lowest fraction. (a) 55 (b) 5.5 (c) 0.55 (d) 0.055 (e) 0.0055
21. Find the HCF of 27, 36 and 54. (a) 3 (b) 9 (c) 18 (d) 27 (e) 54
22. Calculate the area of the plane shape below with given dimensions. (a) $28cm^2$ (b) $32cm^2$ (c) $48cm^2$ (d) $60cm^2$ (e) $80cm^2$



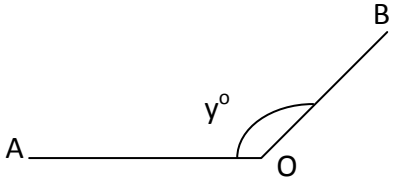
23. Find the length of the side marked x in the triangle below. (a) 5cm (b) 6cm (c) 7cm (d) 8cm (e) 10cm



24. Find the circumference of a circle whose radius is 7cm. (Take π = 22/7). (a) 2cm (b) 7cm (c) 14cm (d) 22cm (e) 44cm
25. What is the value of angle x in the figure below? (a) 17^o (b) 27^o (c) 67^o (d) 97^o (e) 117^o



26. Simplify: $^{21}/_{22} \times 1^{4}/_{5} \div 6^{3}/_{10}$ (a) $2^{1}/_{7}$ (b) $2^{1}/_{9}$ (c) $1^{2}/_{3}$ (d) $^{3}/_{10}$ (e) $^{3}/_{11}$
27. John and Mohammed shared a sum of money in the ratio 7:2. Find the amount shared if Mohammed's share is N3.00. (a) N1.50 (b) N6.00 (c) N10.50 (d) N13.50 (e) N16.50
28. If X^{o}, 105^{o}, 43^{o} and 62^{o} are angles of a quadrilateral. Find the value of x. (a) 180^{o} (b) 165^{o} (c) 155^{o} (d) 150^{o} (e) 120^{o}
29. After $^{5}/_{7}$ of water was removed from a bucket, 100 litres of water was left. What is the capacity of the bucket? (a) 450 litres (b) 400 litres (c) 350 litres (d) 200 litres (e) 140 litres
30. The average of the following numbers, 12, 40, x, 60 and 20 is 36. Find x. (a) 96 (b) 48 (c) 36 (d) 33 (d) 28
31. If the area of a room is $169cm^{2}$, calculate its perimeter. (a) 13cm (b) 26cm (c) 52cm (d) 104cm (e) 169cm
32. Which of the following sets of number is odd number between 50 and 60? (a) 49, 51, 53, 57, 59 (b) 49, 53, 57, 59, 61 (c) 50, 52, 54, 56, 58 (d) 51, 53, 55, 57, 59 (e) 51, 53, 57, 59, 61
33. What is the product of the LCM and HCF of 6, 8 and 12? (a) 2 (b) 12 (c) 14 (d) 24 (e) 48
34. If the percentage profit on a bag of rice is 10% and the cost price is N2,600. Find the selling price. (a) N2626.00 (b) N2860.00 (c) N3200.00 (d) N3460.00 (e) N3660.00
35. John travelled at a speed of 20km/h for 30 minutes. How far did he travel? (a) 40km (b) 35km (c) 20km (d) 15km (e) 10km
36. Find the principal which will yield simple interest of N55.50 for 1½ years at the rate of 2%. (a) N2,775.50 (b) N1,905.50 (c) N1,850.00 (d) N1,794.50 (e) N1,665.00
37. Calculate the value of x in the equation $2x - 15 = 5 - 3x$. (a) 2 (b) 3 (c) 4 (d) 5 (e) 15



38. From the diagram above, angle y^{o} is a/an ____ (a) acute (b) complementary (c) obtuse (d) right (e) supplementary

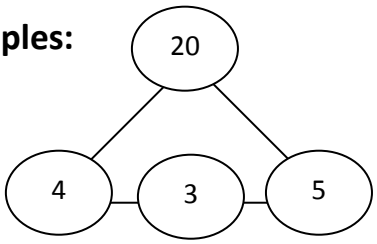
39. Find x if x2 – 9 = 0 (a) x = -9, or x = 0 (b) x = -3 twice (c) x = -3 and x = 3 (d) x = 3 twice (e) x = 1 and x = 9
40. Calculate the area of circle whose circumference is 44cm ($\pi = {}^{22}/_{7}$). (a) 88cm^2 (b) 154cm^2 (c) 198cm^2 (d) 308cm^2 (e) 352cm^2

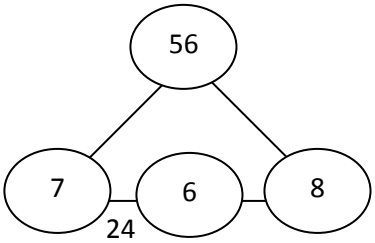
GENERAL SCIENCE

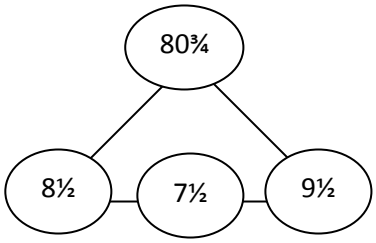
41. Which of these is NOT a way of controlling erosion? (a) contour ridging (b) felling of trees (c) making crossbars between ridges (d) mulching of ridges (e) terracing of slopes where necessary
42. Which of the following is NOT a source of heat? (a) coal (b) electricity (c) friction (d) ore (e) sun
43. The part of muscle which attaches to bone is called ____ (a) cartilage (b) ligament (c) marrow (d) synapse (e) tendon
44. Where does the image form in the human eye? (a) cornea (b) iris (c) lens (d) pupil (e) retina
45. Which of the following statements is NOT true about air? Air (a) has weight (b) is a compound (c) is a mixture (d) is necessary for burning (e) is necessary for life
46. How long does it take the earth to make a complete rotation on its axis? (a) 365 days (b) 28 days (c) 24 hours (d) 12 hours (e) 7 hours
47. Which one of these is NOT an example of a lever? (a) bottle opener (b) crowbar (c) pulley (d) scissors (e) wheelbarrow
48. The part of a tree that holds it firmly to the ground is called the ____ (a) cambium layer (b) medullary ray (c) pith (d) root (e) stem
49. Which of the following is NOT a common disease affecting children? (a) chicken pox (b) kwashiorkor (c) measles (d) polio (e) rabbies
50. A male pig is referred to as _____ (a) boar (b) buck (c) calf (d) drake (e) ram

QUANTITATIVE APTITUDE

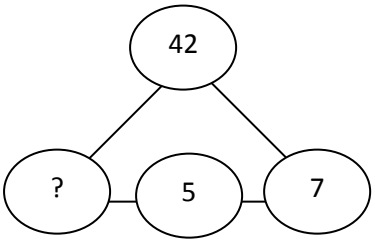
Samples:



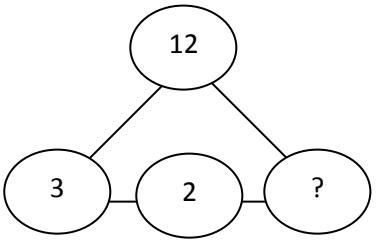




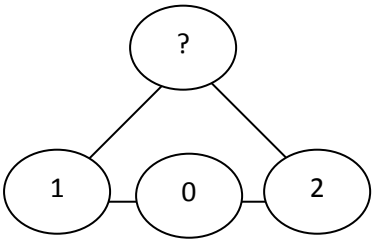
Use the above samples to answer questions 1 – 4. (**Hint:** 4 x 5 = 20, 4 – 1 = 3)

1. 

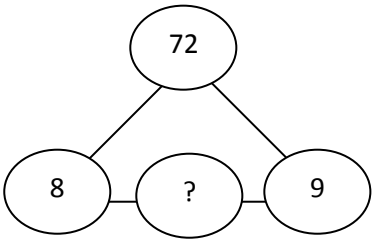
(a) 5 (b) 6 (c) 7 (d) 35 (e) 42

2. 

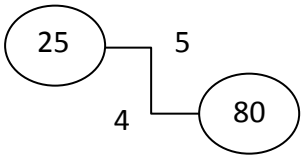
(a) 2 (b) 3 (c) 4 (d) 5 (e) 12

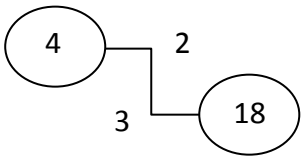
3. 

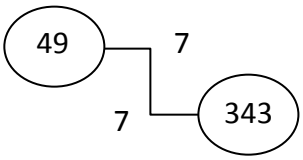
(a) 0 (b) 1 (c) 2 (d) 3 (e) 4

4. 

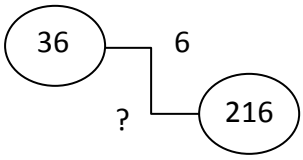
(a) 7 (b) 8 (c) 9 (d) 47 (e) 48

Samples: 

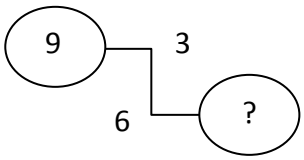




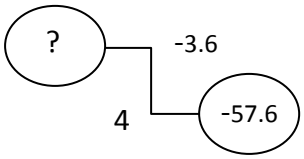
Use the above samples to answer questions 5 – 7. (**Hint:** $5^2 = 25$, $4^2 \times 5 = 80$)

5. 

(a) 6 (b) 9 (c) 11 (d) 36 (e) 108

6. 

(a) 18 (b) 27 (c) 36 (d) 54 (e) 108

7. 

(a) -12.96 (b) -12.40 (c) 12.40 (d) 12.96 (e) 14.40

Sample: If $a \downarrow b = ab$ and $a \uparrow b = a/b$

then $a \downarrow b \uparrow b = a$

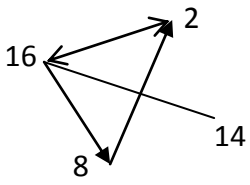
8. $16 \downarrow ? \uparrow 10 = 8$ (a) 34 (b) 26 (c) 18 (d) 16 (e) 5

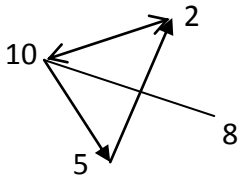
9. $^1/_3 \downarrow 9 \uparrow 9 = ?$ (a) 27 (b) 9 (c) 3 (d) $^1/_3$ (e) $^1/_9$

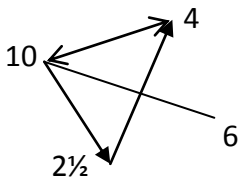
10. $24 \uparrow ? = 6$ (a) 30 (b) 18 (c) 4 (d) ¼ (e) $^1/_{18}$

11. $2 \downarrow ½ = ?$ (a) 4 (b) 2 (c) 1 (d) ½ (e) ¼

Samples:

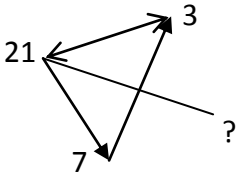






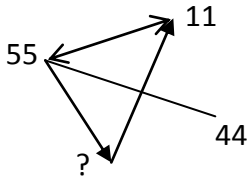
Use the above samples to answer questions 12 – 15. (**Hint:** 8 x 2 = 16, 16 – 2 = 14)

12.



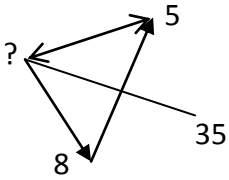
(a) 3 (b) 7 (c) 18 (d) 21 (e) 28

13.



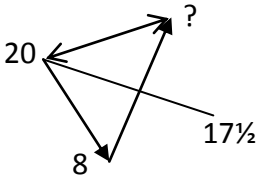
(a) 5 (b) 11 (c) 44 (d) 55 (e) 66

14.



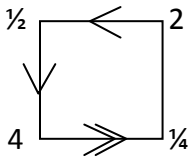
(a) 5 (b) 11 (c) 44 (d) 55 (e) 66

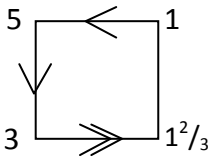
15.

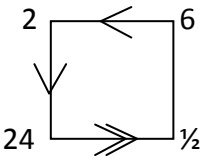


(a) 37 (b) 28 (c) 17 (d) 8 (e) 2½

Samples:

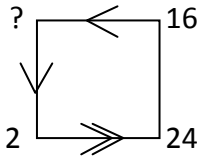






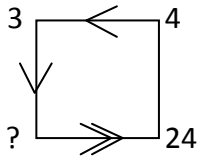
Use the above samples to answer questions 16 – 19. (**Hint:** $\frac{2 \times {}^{1}/_{2}}{4} = \frac{1}{4}$)

16.



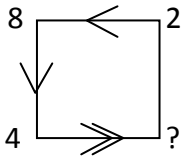
(a) 3 (b) 2 (c) 3/2 (d) ½ (e) 1/3

17.



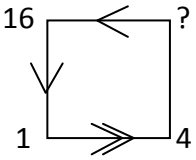
(a) 8 (b) 6 (c) 2 (d) ½ (e) 1/6

18.



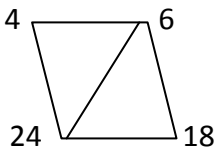
(a) 4 (b) 2 (c) 1 (d) ½ (e) ¼

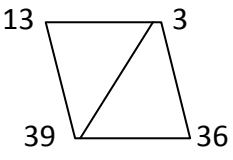
19.

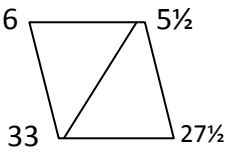


(a) 16 (b) 2 (c) 4 (d) ½ (e) ¼

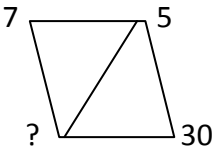
Samples:



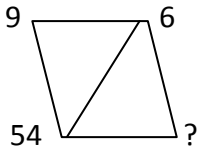




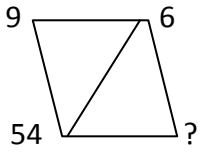
Use the above samples to answer questions 20 – 23. (**Hint:** 4 x 6 = 24, 24 – 6 = 18)

20. 

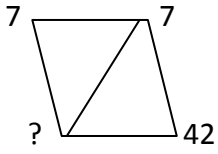
(a) 2 (b) 12 (c) 30 (d) 35 (c) 65

21. 

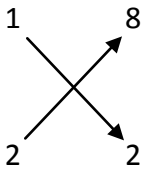
(a) 6 (b) 15 (c) 48 (d) 54 (e) 60

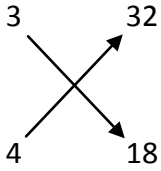
22. 

(a) 6 ½ (b) 17 ½ (c) 54 (d) 71 ½ (e) 76

23. 

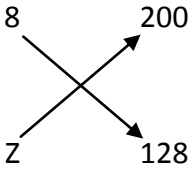
(a) 14 (b) 35 (c) 42 (d) 49 (e) 56

Samples: 



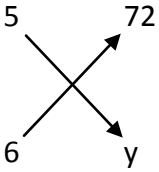
Use the above samples to answer questions 24 – 26. (**Hint:** $1^2 \times 2 = 2$, $2^2 \times 2 = 8$)

24. What is the value of z?



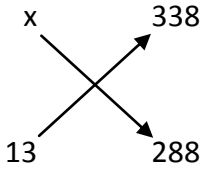
(a) 7 (b) 9 (c) 10 (d) 12 (e) 15

25. What is the value of y?

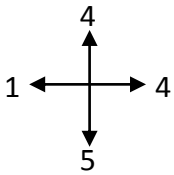


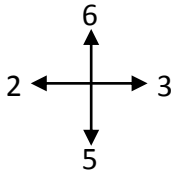
(a) 60 (b) 50 (c) 40 (d) 30 (e) 20

26. Determine the value of x from the sketch.

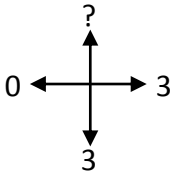


(a) 19 (b) 16 (c) 14 (d) 13 (e) 12

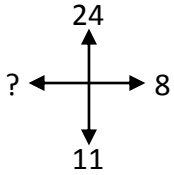
Samples: 



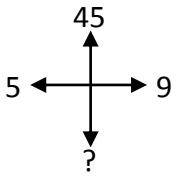
Use the above samples to answer questions 27 – 30. (**Hint:** 1 x 4 = 4, 1 + 4 = 5)

27. 

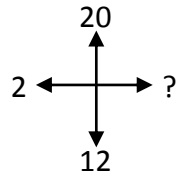
(a) 0 (b) 1 (c) 2 (d) 3 (e) 5

28. 

(a) 32 (b) 19 (c) 13 (d) 3 (e) 2

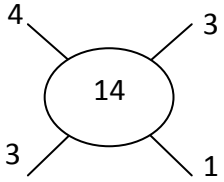
29. 

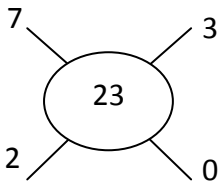
(a) 15 (b) 14 (c) 13 (d) 12 (e) 10

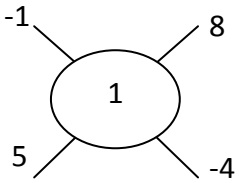
30. 

(a) 18 (b) 15 (c) 14 (d) 10 (e) 8

Samples:

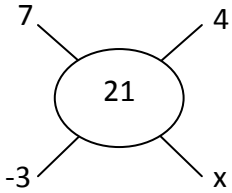






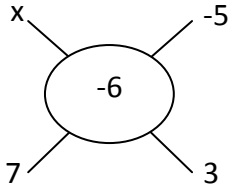
Use the above samples to answer questions 31 – 33. (**Hint:** 4 x 3 + 3 – 1 = 14)

31.



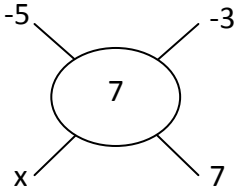
(a) -3 (b) 4 (c) 7 (d) 21 (e) 28

32.



(a) -6 (b) -5 (c) 2 (d) 3 (e) 21

33.



(a) -5 (b) -3 (c) -2 (d) -1 (e) 7

Samples:

Hint: 2 x 6 = 12
3 x 2 = 6

1	4
4	4

2	6
3	12

½	3
6	$1^1/_2$

34.

2½	9
?	21

(a) $5^1/_3$ (b) $4^1/_7$ (c) 4 (d) $3^6/_7$ (e) $3^3/_5$

35.

$^1/_5$	2
10	?

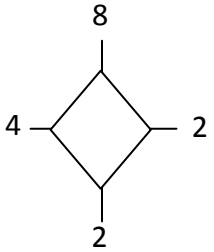
(a) 5/2 (b) 2/5 (c) 1 (d) 1/5 (e) 0

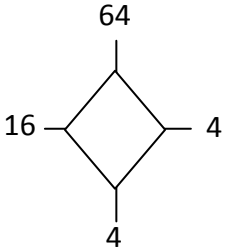
36.

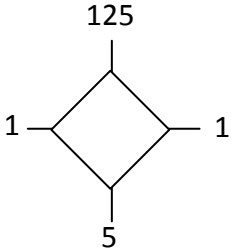
2	?
4	16

(a) 12 (b) 10 (c) 8 (d) 6 (e) 4

Samples:

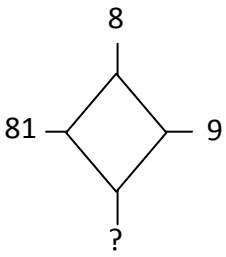






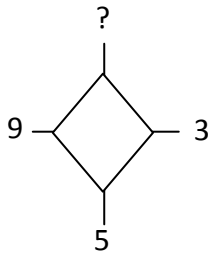
Use the above samples to answer questions 37 – 40. (**Hint:** $2^2 = 4$, $2^3 = 8$)

37.

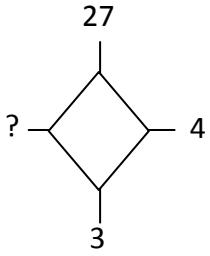


(a) 90
(b) 89
(c) 64
(d) 9
(e) 2

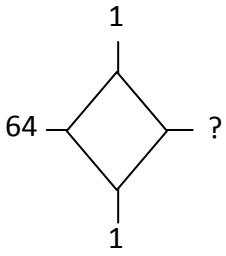
38.



(a) 135
(b) 125
(c) 45
(d) 27
(e) 2

39. 

(a) 16
(b) 12
(c) 9
(d) 3
(e) 2

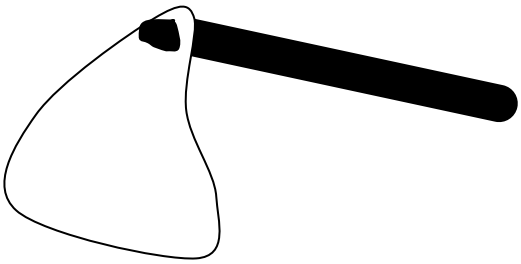
40. 

(a) 64
(b) 32
(c) 16
(d) 8
(e) 4

VOCATIONAL APTITUDE

Complete each of the following questions with the most appropriate of the options lettered A – E (Nos. 41 – 49)

41. The _____ is used for air transportation. (a) aeroplane (b) bicycle (c) car (d) horse (e) motorcycle
42. The object shown below is used by ____ (a) carpenter (b) farmers (c) hunters (d) mansons (e) tailors



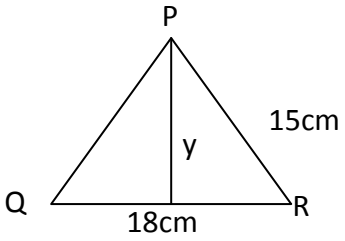
43. Waiters are commonly found in (a) banks (b) courts (c) hospitals (d) hotels (e) schools
44. A typewriter is to typist as a sewing machine is to (a) artist (b) hostess (c) sailor (d) salesman (e) tailor
45. Blacksmiths produce all of the following EXCEPT (a) axes (b) cutlasses (c) jewelries (d) hoes (e) knives
46. Pen is to sheep as flowers (a) barn (b) court (c) farm (d) garden (e) lawn
47. For a horse a rider, for an aeroplane a/an (a) captain (b) controller (c) driver (d) operator (e) pilot
48. Mr. Audu went to a _____ to mend his shoes. (a) cobbler (b) dyer (c) janitor (d) sculptor (e) tailor
49. The following professionals work on motor vehicles EXCEPT (a) mechanics (b) painters (c) plumbers (d) upholsters (e) welders
50. Which of the following tools is used for cutting cloth? (a) chisel (b) saw (c) scissors (d) shears (e) snips

NATIONAL COMMON ENTRANCE EXAMINATION 2003

MATHEMATICS

1. One angle of a triangle is 43^{o} and the second angle is twice as big. Find the third angle. (a) 129^{o} (b) 86^{o} (c) 61^{o} (d) 57^{o} (e) 51^{o}
2. Approximate 89,107 to the nearest thousand. (a) 80,107 (b) 89,000 (c) 89,100 (d) 89,110 (e) 90,00
3. Arrange the following fractions in decreasing order of magnitude: $^{5}/_{8}$, ¾, ¼, ½ and $^{2}/_{3}$. (a) ¼, ½, $^{5}/_{8}$, $^{2}/_{3}$, ¾ (b) ½, $^{2}/_{3}$, ¼, ¾, $^{5}/_{8}$ (c) ¾, $^{2}/_{3}$, $^{5}/_{8}$, ½, ¼ (d) $^{5}/_{8}$, ¾, $^{2}/_{3}$, ½, ¼ (e) $^{5}/_{8}$, ¾, ½, $^{2}/_{3}$, ¼
4. Find the positive difference between 1¾ of $1^{1}/_{14}$ and ½. (a) ½ (b) $^{3}/_{7}$ (c) $^{3}/_{8}$ (d) $^{11}/_{8}$ (e) $^{1}/_{16}$
5. How many 0.002 can be found in 80? (a) 0.16 (b) 4 (c) 16 (d) 4,000 (e) 40,000
6. A man took a loan of N90,00.00 without interest from a cooperative society and he is to be paying back N2,500.00 on monthly installment. How many years will it take him to finish paying the debt? (a) 3 (b) 6 (c) 9 (d) 12 (e) 36
7. Change 25% to decimal. (a) 0.0025 (b) 0.025 (c) 0.25 (d) 2.5 (e) 25.0
8. What is the difference between ten and one tenth? (a) 10.1 (b) 9.9 (c) 0.9 (d) 0.1 (e) 0.0
9. Tuned bought a bicycle for N10,000.00 and he later sold it for N10,500.00. What was his gain or loss percent? (a) 500 (b) 95 (c) 92.2 (d) 5 (e) 4.8
10. The numbers of eggs collected by a poultry farmer from Monday to Friday are 28, 40, 52, 27 and 13. Find the average of the eggs collected. (a) 160 (b) 52 (c) 40 (d) 32 (e) 28
11. Expand $-2x(3x - 4)$. (a) $-6x^2 - 8$ (b) $-6x - 8$ (c) $-6x^2 + 8x$ (d) $6x^2 + 8$ (e) $6x^2 + 8x$
12. After spending N2,500.00 out of his pocket money, Ibrahim still had $^{3}/_{5}$ of his initial money left. How much was his initial money? (a) N833.35 (b) N1,250.00 (c) N3,750.00 (d) N4,166.65 (e) N7,250.00

13. Find the area of the figure above. (a) $48cm^2$ (b) $24cm^2$ (c) $15cm^2$ (d) $14cm^2$ (e) $9cm^2$



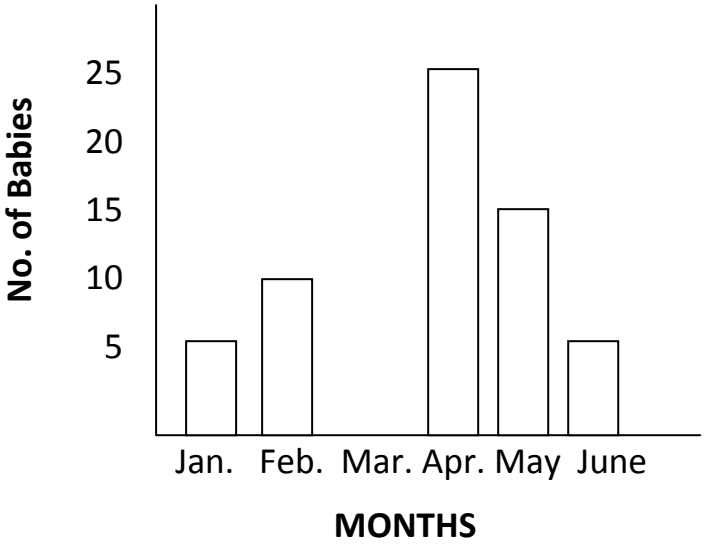
14. If the area of the diagram above is $45cm^2$, find the value of y. (a) $6^1/_5$ (b) 6¼ (c) 6 (d) 5¼ (e) 5
15. The perimeter of a circle is 66cm. find its radius. ($\pi = {}^{22}/_7$) (a) 69.1cm (b) 33.0cm (c) 21.0cm (d) 10.5cm (e) 3.0cm

a = 1, b = -1, c = -2 and d = 0.

Use the information to answer questions 16 and 17.

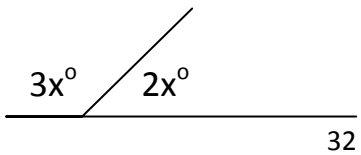
16. Find the value of $a^2 + b^2$. (a) 0 (b) 1 (c) 2 (d) 3 (e) 4
17. What is the value of abd? (a) 3 (b) 2 (c) 1 (d) 0 (e) -1
18. Joseph and Ibrahim shared N10,500.00 in the ratio of 3:2. How much did Joseph receive? (a) N2,100.00 (b) N4,200.00 (c) N6,300.00 (d) N8,400.00 (e) N10,500.00
19. Thomas thinks of a number, he adds 5 to it and divides the result by 3. If the final answer is 7, what is the number? (a) 1.6 (b) 2.3 (c) 15.0 (d) 16.0 (e) 21.0
20. Find the value of $(-1½)\ (-3^1/_5)\ (-2)$. (a) $+9^4/_5$ (b) $+7^3/_5$ (c) $-9^3/_5$ (d) $-8^1/_5$ (e) -10
21. Find the value of t if ${}^4/_t = {}^5/_3$. (a) $6^2/_3$ (b) 3¾ (c) $2^2/_5$ (d) 2 (e) $1^1/_5$
22. How many degrees does the minute hand of a clock turn in 20 minutes? (a) 360^o (b) 180^o (c) 150^o (d) 120^o (e) 60^o
23. Simplify $25pq^6 \div 5p^2q^4$. (a) $5q^4$ (b) $5p^2$ (c) $5q^2/p$ (d) $q^2/5p$ (e) $5p/q^2$
24. Find the number of cubic centimeters in a cubic decimeter. (a) 10,000 (b) 1,000 (c) 100 (d) 10 (e) 1
25. If ${}^2/_5$ of a number is removed from ¾ of the same number, the result is 26. Find the number. (a) 50 (b) 46 (c) 40 (d) 36 (e) 30
26. The length of a rectangle is three times its breadth. If the perimeter of the rectangle is 56cm. Find the length of the rectangle. (a) 7cm (b) 14cm (c) 21cm (d) 24cm (e) 28cm
27. Which of these numbers is the highest in value? (a) 0 (b) -1 (c) -2 (d) -5 (e) -100
28. If a = 5, and b = 3, what is the value of 2a – 3b + 3a? (a) -16 (b) -14 (c) 14 (d) 16 (e) 34

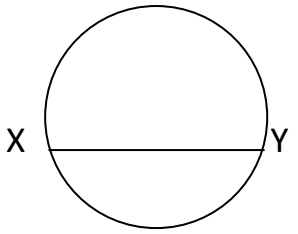
29. Simplify ½ x $1^{2}/_{3}$ + 1½ - ¾. (a) $^{5}/_{6}$ (b) $1^{5}/_{24}$ (c) $1^{7}/_{12}$ (d) $1^{2}/_{3}$ (e) $2^{1}/_{3}$
30. If 5x = 25, what is the value of $2x^{2}$? (a) 5 (b) 10 (c) 20 (d) 25 (e) 50
31. Uche sold a shirt at the rate of N1,200.00 and made a profit of 25%. What was the cost price? (a) N48.00 (b) N480.00 (c) N960.00 (d) N1,008.00 (e) N1,500.00



The bar chart above shows the number of new born babies in a hospital. Study the chart and use the information to answer questions 32 to 36.

32. What is the total number of babies from January to June? (a) 25 (b) 40 (c) 50 (d) 55 (e) 60
33. Which of the months has the highest number of babies? (a) April (b) February (c) January (d) June (e) May
34. Which months have equal number of babies? (a) April and February (b) February and January (c) February and June (d) January and June (e) June and March
35. Which of the following months has no babies recorded? (a) March (b) May (c) June (d) January (e) February
36. What is the difference between the number of babies in January and April? (a) 5 (b) 10 (c) 15 (d) 20 (e) 25
37. How many degrees will a boy turn from North-East to South-West? (a) 270^{o} (b) 180^{o} (c) 90^{o} (d) 45^{o} (e) 22^{o}
38. Find the value of X^{o} in the figure below. (a) 5^{o} (b) 12^{o} (c) 36^{o} (d) 60^{o} (e) 180^{o}





39. What is the name of the line XY in the figure above? (a) chord (b) diameter (c) radius (d) sector (e) segment
40. How many edges does a cuboid have? (a) 4 (b) 6 (c) 8 (d) 12 (e) 16

GENERAL SCIENCE

41. Which of the following is not a domestic animal? (a) Cat (b) Cow (c) Dog (e) Elephant (e) Sheep
42. All of the following are metals EXCEPT (a) Aluminium (b) Carbon (c) Gold (d) Iron (e) Zinc
43. The following are temperature scales EXCEPT (a) Celsius (b) Fahrenheit (c) Kelvin (d) Newton (e) Rankine
44. The following are good for plant growth EXCEPT (a) fertile soil (b) garden beds (c) light (d) nutrients (e) water
45. The process by which water vapour changes to liquid is known as (a) boiling (b) condensation (c) evaporation (d) melting (e) vaporization
46. An eclipse of the sun occurs when the (a) earth comes between the moon and the sun (b) earth's shadow falls on the moon (c) moon comes between the sun and the earth (d) moon is in the same straight line with the sun and the earth (e) sun comes between the moon and the earth
47. Which of the following is NOT a characteristic of air? It (a) can be compressed (b) has weight (c) is a compound (d) is a mixture (e) occupies space
48. The following birds fly EXCEPT (a) dove (b) eagle (c) pigeon (d) peacock (e) vulture
49. Which of the following statements about friction is NOT correct? (a) cars are less likely to skid on wet than on dry roads (b) friction always opposes motion (c) friction causes wears and tears in moving parts of machines (d) lubricants are used to reduce friction (e) walking is impossible without friction
50. Which of the following is a function of the skin in human beings? (a) digestion (b) excretion (c) movement (d) reproduction (e) respiration

QUANTITATIVE APTITUDE

Samples:

$\begin{vmatrix} 3 & 4 \\ 6 & 9 \end{vmatrix} = 3$ $\quad$ $\begin{vmatrix} 2 & 5 \\ 4 & 15 \end{vmatrix} = 10$ $\quad$ $\begin{vmatrix} 1\,1/2 & 2 \\ 2 & 3\,1/4 \end{vmatrix} = \frac{7}{8}$

Study the samples carefully and use them to answer questions 1 – 3.

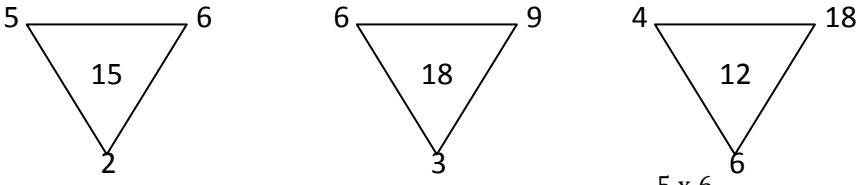
(**Hint:** 3 x 9 – 6 x 4 = 3)

1. What is the value of $\begin{vmatrix} 2.5 & 5.2 \\ 6.5 & 15.9 \end{vmatrix} =$? (a) 5.95 (b) 6.70 (c) 8.10 (d) 12.10 (e) 15.30

2. Find the value of x if $\begin{vmatrix} 8 & 10 \\ 12 & x \end{vmatrix} = 0$ (a) 35 (b) 25 (c) 20 (d) 15 (e) 10

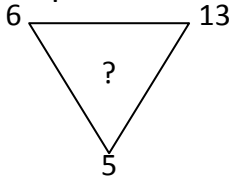
3. if $\begin{vmatrix} 12 & 9 \\ 5 & c \end{vmatrix} = 27$. Find the value of c. (a) 12 (b) 9 (c) 6 (d) 5 (e) 3

Sample:



Use the samples above to answer questions 4 – 6. (**Hint:** $\frac{5 \text{ x } 6}{2} = 15$)

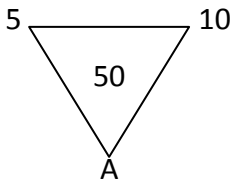
4.



Find the missing number in the diagram.

(a) 78 (b) 15.8 (c) 15.6 (d) 7 (e) 3.6

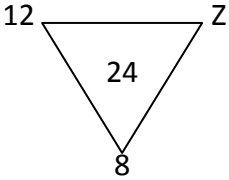
5.



What is the value of A from the diagram?

(a) 1 (b) 5 (c) 10 (d) 25 (e) 30

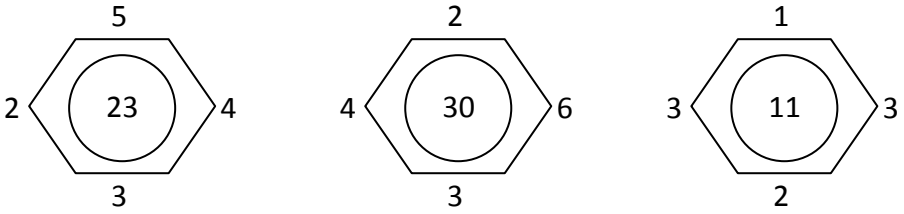
6.



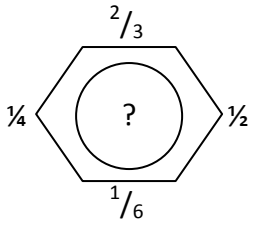
Find the value of Z from the diagram.

(a) 2 (b) 4 (c) 6 (d) 16 (e) 28

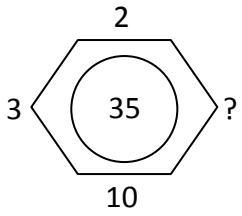
Samples:



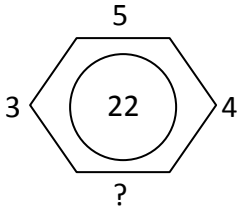
Use the samples above to answer questions 7 – 9. (**Hint:** 5 x 3 + 2 x 4 = 23)

7. 

(a) 1½ (b) $^{1}/_{6}$ (c) ¾ (d) $^{5}/_{6}$ (e) $^{17}/_{12}$

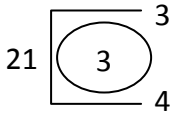
8. 

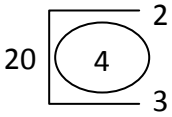
(a) 8 (b) 7 (c) 6 (d) 5 (e) 1

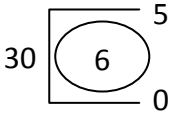
9. 

(a) 1 (b) 2 (c) 5 (d) 12 (e) 17

Samples:

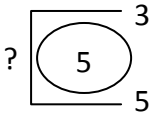




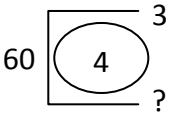


Study the samples above and use them to answer questions 10 – 13.

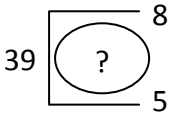
Hint: (3 + 4) x 3 = 21 OR $\frac{21}{3+4} = 3$

10. 

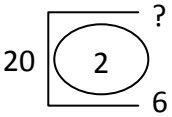
(a) 8 (b) 13 (c) 30 (d) 40 (e) 150

11. 

(a) 63 (b) 20 (c) 15 (d) 12 (e) 7

12. 

(a) 43 (b) 34 (c) 13 (d) 3 (e) 1

13. 

(a) 4 (b) 8 (c) 10 (d) 14 (e) 18

Samples:

5 → 2 = 7

5 ← 3 = 2

6 → — 2 = 12

18 — ← 3 = 6

Study the pattern and use it to answer questions 14 – 17

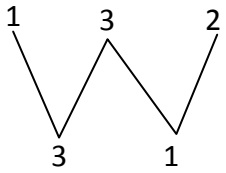
14. 1001 → 101 = ? (a) 201 (b) 900 (c) 1001 (d) 1102 (e) 2011

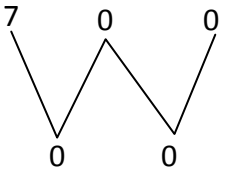
15. 15 → — 3 — ← 5 = ? (a) 1 (b) 9 (c) 23 (d) 25 (e) 60

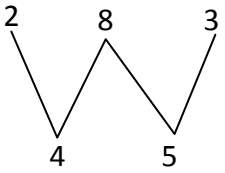
16. 5 → 4 → 2 → — 0 = ? (a) 0 (b) 3 (c) 10 (d) 11 (e) 40

17. 25 ← 12 → 12 = ? (a) 49 (b) 37 (c) 25 (d) 24 (e) 20

Samples:

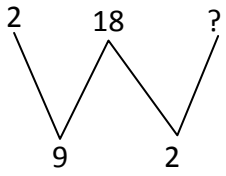






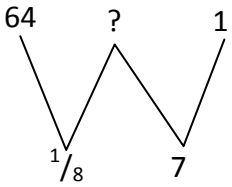
Use the above samples to answer questions 18 – 22. **Hint:** 2 x 4 = 8, 3 + 5 = 8

18.



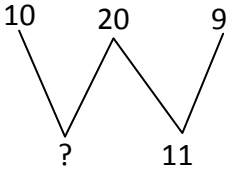
(a) 2 (b) 7 (c) 11 (d) 16 (e) 20

19.



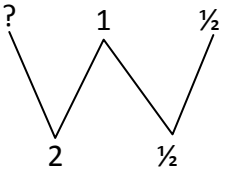
(a) 2 (b) 6 (c) 7 (d) 8 (e) 65

20.



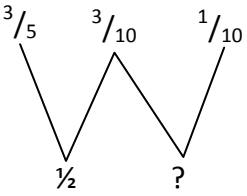
(a) 1 (b) 2 (c) 8 (d) 10 (e) 30

21.



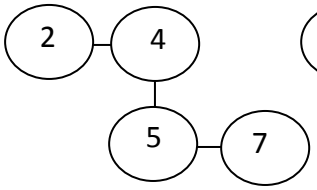
(a) 0 (b) ¼ (c) ½ (d) 1 (e) 2

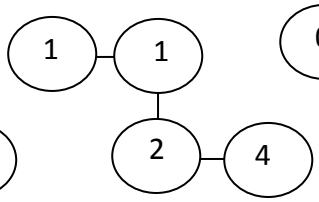
22.

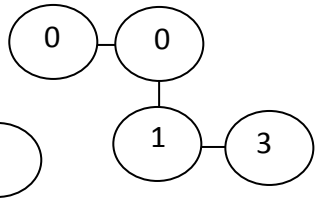


(a) $1^{1}/_{10}$ (b) $^{7}/_{10}$ (c) $^{3}/_{5}$ (d) $^{2}/_{5}$ (e) $^{1}/_{5}$

Samples:

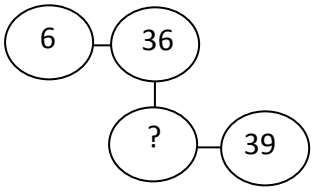






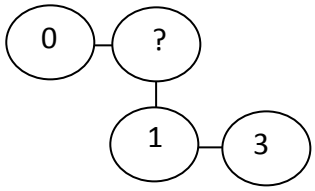
Use the samples above to answer questions 23 – 26. (**Hint:** 2^2 = 4, 5 +2 = 7)

23.



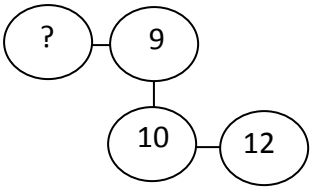
(a) 42 (b) 37 (c) 30 (d) 6 (e) 3

24.



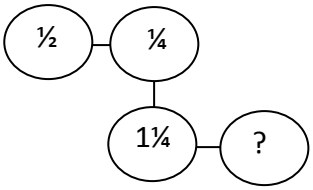
(a) 0 (b) 1 (c) 2 (d) 3 (e) 4

25.



(a) 19 (b) 12 (c) 6 (d) 3 (e) 1

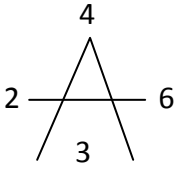
26.

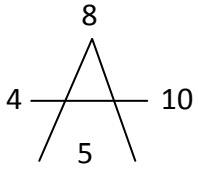


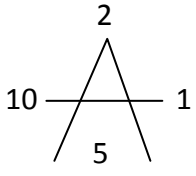
(a) 3¼ (b) 1½ (c) 1 (d) ¾ (e) $^{2}/_{5}$

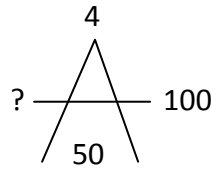
Samples:

Hint: 2 x 6 = 3 x 4

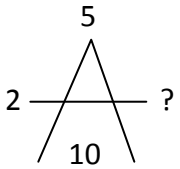




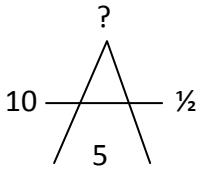


27. 

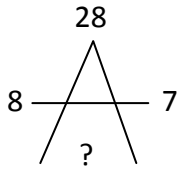
(a) 54 (b) 25 (c) 18 (d) 4 (e) 2

28. 

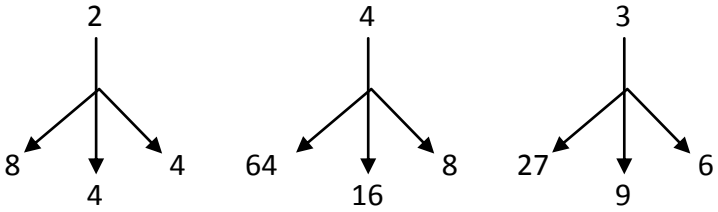
(a) 50 (b) 25 (c) 20 (d) 15 (e) 12

29. 

(a) 1 (b) 2 (c) 5 (d) 10 (e) 15

30. 

(a) 56 (b) 15 (c) 4 (d) 2 (e) 1

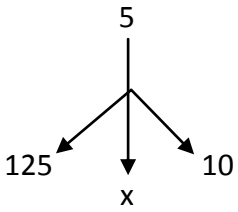
Samples: 

Hint: $2^3 = 8$

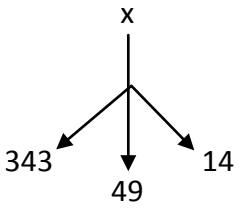
$2^2 = 4$

2 x 2 = 4

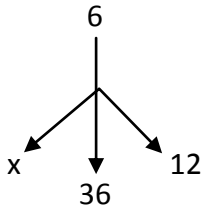
Study the above samples and use them to answer questions 31 – 34.

31. 

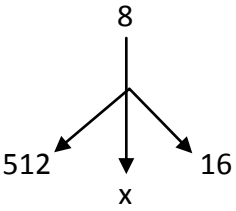
(a) 10 (b) 15 (c) 20 (d) 25 (e) 30

32. 

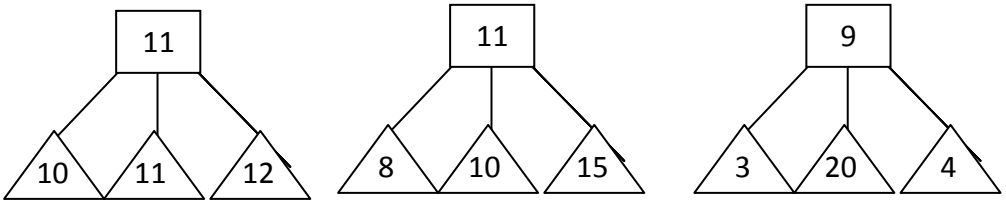
(a) 7 (b) 9 (c) 11 (d) 13 (e) 15

33. 

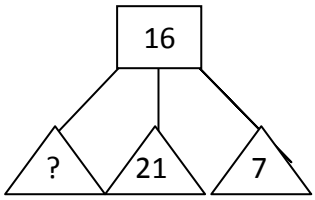
(a) 72 (b) 108 (c) 144 (d) 216 (e) 252

34. 

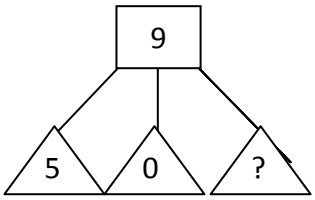
(a) 24 (b) 32 (c) 40 (d) 48 (e) 64

Samples: 

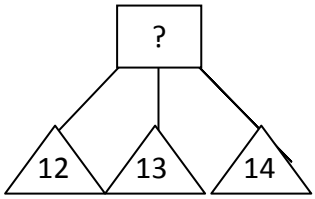
Use the above samples to answer questions 35 – 38. **Hint:** $\frac{10 + 11 + 12}{3} = 11$

35. 

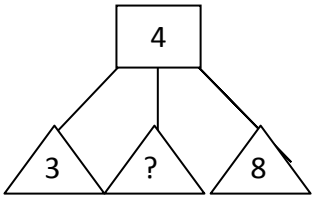
(a) 13 (b) 14 (c) 15 (d) 16 (e) 20

36. 

(a) 45 (b) 25 (c) 22 (d) 14 (e) 4

37. 

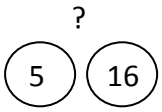
(a) 2 (b) 13 (c) 26 (e) 27 (d) 39

38. 

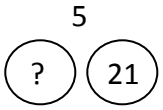
(a) 1 (b) 4 (c) 5 (d) 12 (e) 24

Samples: 

Use the sample above to answer questions 39 and 40. **Hint:** $\frac{13 - (2 \times 2)}{3} = 3$

39. 

(a) 2 (b) 4 (c) 11 (d) 16 (e) 21

40. 

(a) 3 (b) 6 (c) 16 (d) 21 (e) 26

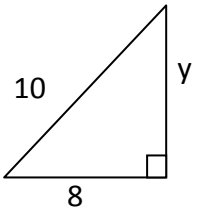
VOCATIONAL APTITUDE

41. A person who controls a ship is known as a ____ (a) controller (b) driver (c) pilot (d) rider (e) sailor
42. Lawyers are commonly found in (a) asylums (b) barracks (c) camps (d) court (e) prisons
43. The full meaning of NEPA is ____ Power Authority. (a) Nigerian Electric (b) Nigerian Economic (c) National Economic (d) National Efficiency (e) National Electric
44. A place where clothes are washed is known as ___ (a) dormitory (b) laundry (c) lavatory (d) poultry (e) pottery
45. A house is designed by a/an (a) accountant (b) architect (c) doctor (d) engineer (e) lawyer
46. Give a hunter a gun and a fisherman a (a) bow and arrow (b) spear (c) hook (d) dagger (e) trap
47. Which of the following is NOT a vocation? (a) boxing (b) auto mechanic (c) carpentry (d) craft making (e) fashion designing
48. Which of these tools does NOT fit into the group listed? (a) chisel (b) jack (c) pliers (d) saw (e) spanner
49. A device which makes work easier and faster for us is called (a) car (b) machine (c) motor (d) pulley (e) lever
50. The people who work on water pipelines are called (a) carpenters (b) electricians (c) masons (d) painters (e) plumbers

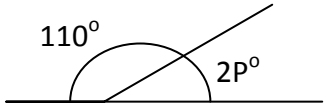
NATIONAL COMMON ENTRANCE EXAMINATION 2004

MATHEMATICS

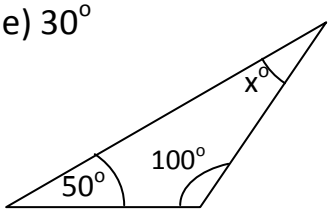
1. Write in figure, fifty-five thousand and fifteen. (a) 55,015 (b) 55,115 (c) 55,150 (d) 55,515 (e) 550,015
2. If $^{x}/_{5} = 15$, what is the value of x? (a) 80 (b) 75 (c) 45 (d) 35 (e) 30
3. Convert 80% to a fraction and multiply the result by 20. (a) 16 (b) 20 (c) 25 (d) 100 (e) 160
4. A line that divides a circle into two equal parts is called a/an __ (a) arc (b) diameter (c) perimeter (d) radius (e) semi-circle
5. In what time will N640.00 yield N64.00 interest at the rate of 5% per annum? (a) 2 years (b) 4 years (c) 8 years (d) 10 years (e) 12 years
6. What is the sum of 15438; 2431; 1626 and 502492? (a) 521987 (b) 520897 (c) 520789 (d) 421987 (e) 412987
7. One-quarter of a number is 64. What is the number? (a) 256 (b) 64 (c) 21 (e) 16 (d) 4
8. Find the value of $\frac{12}{1+3b+b-c}$ if a = 8, b = 1 and c = 5 (a) 12 (b) 6 (c) 4 (d) 2 (e) 0
9. Solve the equation: 2y + 3y + 5 = 20. (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
10. A man paid N135.00 for 3 minutes to make a phone call. How much would he have to pay for 4 minutes call? (a) N34.00 (b) N45.00 (c) N180.00 (d) N405.00 (e) N540.00
11. What is the median of the scores: 4, 1, 2, 0, 5, 3, 4? (a) 0 (b) 1 (c) 2 (d) 3 (e) 4
12. What is the circumference of a circle whose diameter is 21cm? ($\pi = {}^{22}/_{7}$) (a) 66cm (b) 44cm (c) 33cm (d) 22cm (e) 21cm
13. Find the value of the side marked y in the diagram below. (a) 18 (b) 9 (c) 7 (d) 6 (e) 2



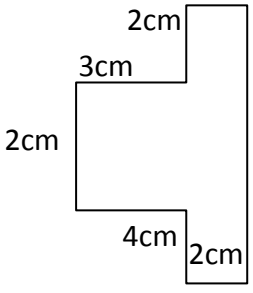
14. Find the value of P in the figure below. (a) 360^{o} (b) 180^{o} (c) 110^{o} (d) 70^{o} (e) 35^{o}



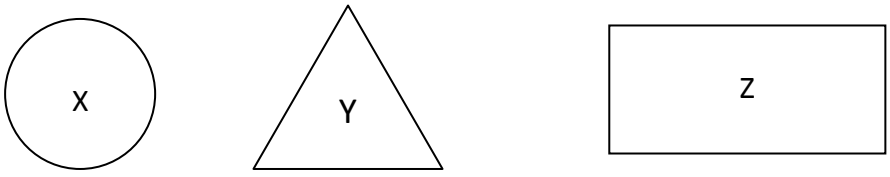
15. How many degrees does the second-hand of a clock turn in 15 seconds? (a) 30^o (b) 40^o (c) 45^o (d) 60^o (e) 90^o
16. Find the value of the angle marked xo in the triangle below. (a) 120^o (b) 100^o (c) 80^o (d) 40^o (e) 30^o



17. Tony and Joy shared 49 mangoes in the ratio of 3:4. How many mango(es) did Joy receive more than Tony? (a) 1 (b) 7 (c) 21 (d) 28 (e) 42
18. A bottle of wine costs N120.00. How many bottles can one buy from N1,000.00? (a) 1 (b) 8 (c) 9 (d) 10 (e) 12
19. If 5:14 is expressed in the form 1:n, find the value of n. (a) 3.8 (b) 2.8 (c) 2.4 (d) 1.8 (e) 1.4
20. If a = 4 and b = 3, what is the value of (a + b)(a – b)? (a) 3 (b) 7 (c) 12 (d) 28 (e) 49
21. In a swimming competition, the times recorded for five athletes are 25.00secs., 25.02secs., 24.97secs., 24.99secs., and 25.01secs. What is the record time for the winner? (a) 25.02 secs. (b) 25.01 secs. (c) 25.00 secs (d) 24.99 secs (e) 24.97 secs
22. Which of these numbers is a perfect cube? (a) 9 (b) 36 (c) 29 (d) 144 (e) 216
23. Find the area of the figure below. (a) $186cm^2$ (b) $22cm^2$ (c) $16cm^2$ (d) $8cm^2$ (e) $6cm^2$



24. What are the names of the shapes below, in order, from x to z? (a) circle, triangle, square (b) circle, triangle, rectangle (c) rhombus, circle, polygon (d) semi-circle, triangle, rhombus (e) triangle, rectangle, circle



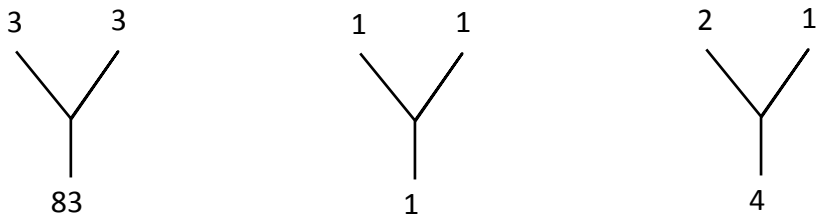
25. If t = 1 = 9, what is $t^2 + 6$? (a) 58 (b) 64 (c) 70 (d) 100 (e) 106
26. The average of the following numbers: 12, 20, m, 40 and 60 is 36. What is the value of m? (a) 180 (b) 132 (c) 48 (d) 33 (e) 28
27. A man is 30 years old now. What was his age 'n' years ago? (a) (30 + n)years (b) 30n years (c) (30 – n)years (d) (n – 30)years (e) $^{30}/_{n}$ years
28. Find the sum of 0.07; 6.3; and 3.63. (a) 8 (b) 9 (c) 10 (d) 11 (e) 12
29. Find the mean of the numbers; 2.5; 4; 2.8; 8.5; 4.2 and 2. (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
30. Calculate the sum of the mean and mode of the set of scores: 2, 1, 1, 4, 2, 2. (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
31. What is the value of a^2 if a – 5 = 3? (a) 4 (b) 8 (c) 9 (d) 25 (e) 64
32. Divide the product of 2.25 and 10 by the sum of 2.25 and 2.75. (a) 2.25 (b) 2.75 (c) 4.50 (d) 5.00 (e) 22.50
33. The three angles of a triangle are in the ratio 2:3:5. Calculate the size of the biggest angle. (a) 120^o (b) 100^o (c) 90^o (d) 54^o (e) 36^o
34. If a shirt costs N550.00 and a pair of shoes cost N2,500.00. What is the cost of three shirts and two pairs of shoes? (a) N1,650.00 (b) N3,050.00 (c) N5,000.00 (d) N6,650.00 (e) N8,600.00
35. The area of a square room is $64m^2$. What is the perimeter of the room? (a) 8m (b) 16m (c) 24m (d) 32m (e) 64m
36. A gardener is paid N3,600.00 per month. What is his salary per annum? (a) N43,200.00 (b) N36,000.00 (c) N21,600.00 (d) N18,000.00 (e) N7,200.00
37. If cars A and B are travelling at the speed of 55km/hr and 75km/hr respectively, what is their average speed? (a) 55km/hr (b) 65km/hr (c) 75km/hr (d) 130km/hr (e) 260km/hr
38. The result when 10 is added to five times a number is 60. What is the number? (a) 70 (b) 50 (c) 14 (d) 10 (e) 8
39. Subtract the H.C.F of 9, 18 and 27 from the L.C.M of 16 and 24. (a) 9 (b) 27 (c) 24 (d) 39 (e) 48
40. Express 'x'cm in metres. (a) (100x) metres (b) (10x) metres (c) x metres (d) (0.1x) metres (e) (0.01x) metres

GENERAL SCIENCE

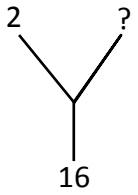
41. When yellow paint is mixed with a blue one, we have _____ colour. (a) black (b) blue (c) green (d) red (e) yellow
42. The temperature of a person is commonly measured by putting a thermometer ___ (a) above the head (b) below the foot (c) inside the throat (d) on the lips (e) under the armpit
43. Which of the following CANNOT improve soil fertility? (a) animal dump (b) artificial fertilizer (c) bush burning (d) compost manure (e) planting of trees
44. Which method would you use to bend a piece of iron? (a) beating (b) breaking (c) hammering (d) heating (e) stretching
45. Chickens are commonly reared to produce ___ (a) bone (b) feathers (c) meat (d) milk (e) oil
46. The soil sample from the _____ is dark in colour. (a) garden (b) gravel (c) lake (d) play ground (e) river side
47. Local soap can be made by mixing ____ (a) banana, ashes and groundnut oil (b) palm oil and banana ashes (c) petrol and palm oil (d) sheanut oil and wood ashes (e) water and paper ashes
48. In which part of the cassava plant is food usually stored? (a) flower (b) leaf (c) root (d) seed (e) stem
49. The smallest and closest planet to the sun is ____ (a) earth (b) Jupiter (c) mars (d) mercury (e) Saturn
50. The disadvantage of friction on a car is the ____ (a) slowing down of speed rate (b) spreading of water on tyres (c) sudden brake failure (d) quick burning of petrol (e) wearing and tearing of tyres

QUANTITATIVE APTITUDE

Samples:



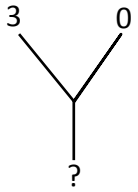
Find the relationship and use it to answer questions 1 to 3. (**Hint:** $(3 \times 3)^2 = 81$)

1. 

(a) 2 (b) 4 (c) 8 (d) 14 (e) 16

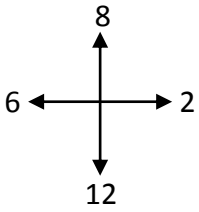
2. 

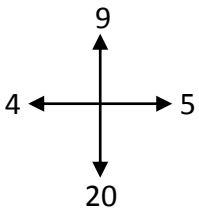
(a) 2 (b) 4 (c) 8 (d) 16 (e) 32

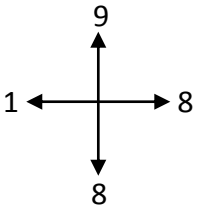
3. 

(a) 9 (b) 6 (c) 3 (d) 1 (e) 0

Samples:

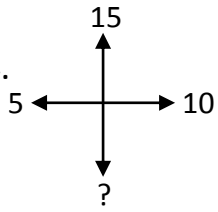




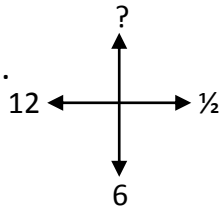


Study the sample above carefully and use it to answer questions 4 to 6.

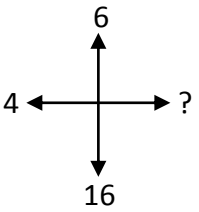
Hint: 6 x 2 = 12, 6 + 2 = 8

4. 

(a) 50
(b) 40
(c) 35
(d) 25
(e) 5

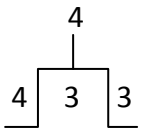
5. 

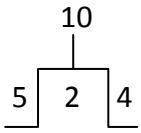
(a) 12½
(b) 6½
(c) 6
(d) 5 ½
(e) 3

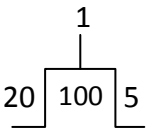
6. 

(a) 2
(b) 4
(c) 12
(d) 20
(e) 24

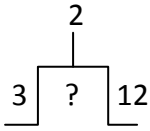
Samples:



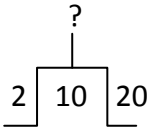




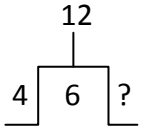
Use the above sample to answer questions 7 to 9. **Hint:** $\frac{4 \times 3}{3} = 4$

7. 

(a) 36
(b) 18
(c) 17
(d) 15
(e) 6

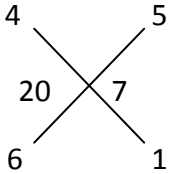
8. 

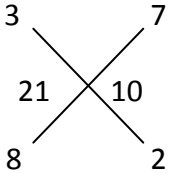
(a) 32
(b) 20
(c) 5
(d) 4
(e) 2

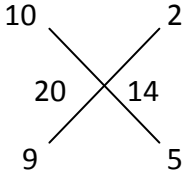
9. 

(a) 3
(b) 6
(c) 18
(d) 24
(e) 48

Samples:

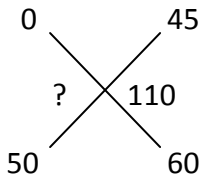




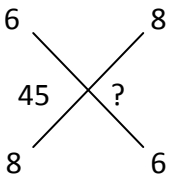


Use the information above to answer questions 10 to 12.

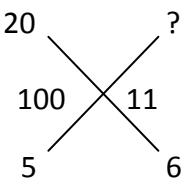
Hint: 4 x 5 = 20, 6 + 1 = 7

10. 

(a) 0
(b) 5
(c) 10
(d) 15
(e) 95

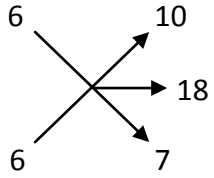
11. 

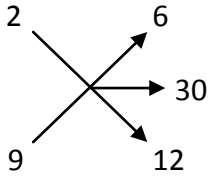
(a) 12
(b) 14
(c) 16
(d) 20
(e) 28

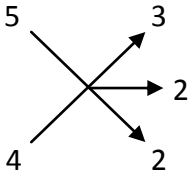
12. 

(a) 5
(b) 15
(c) 17
(d) 25
(e) 61

Samples:

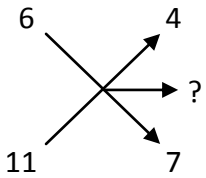




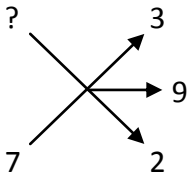


Study the sample above and use it to answer questions 13 to 15.

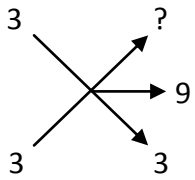
Hint: 4 x 3 – (5 x 2) = 2

13. 

(a) 2 (b) 3 (c) 10 (d) 11 (e) 24

14. 

(a) 14 (b) 12 (c) 10 (d) 9 (e) 6

15. 

(a) 1 (b) 3 (c) 6 (d) 9 (e) 12

Samples: $2 \rightarrow 4 = 8$

$10 \leftarrow 2 = 5$

$3 \leftrightarrow 2 = 5$

Find the relationship and use it to answer questions 16 to 19.

16. $2 \rightarrow 3 \leftarrow 2$ (a) 3 (b) 4 (c) 5 (d) 8 (e) 9

17. $3 \leftrightarrow (5 \rightarrow 2)$ (a) 5 (b) 7 (c) 8 (d) 10 (e) 13

18. $\underline{3 \rightarrow 6}$ (a) 3 (b) 4 (c) 6 (d) 7 (e) 8
$24 \leftarrow 4$

19. $\underline{(4 \rightarrow 3) \rightarrow 2}$ (a) 6 (b) 8 (c) 10 (d) 12 (e) 24
$12 \leftarrow 4$

Samples:

50	40
100	

30	10
400	

10	9
1	

Study the sample above carefully and use it to answer questions 20 to 22.

Hint: $(50 - 40)^2 = 100$

20.

8	?
25	

(a) 2 (b) 3 (c) 4 (d) 5 (e) 6

21.

36	32
?	

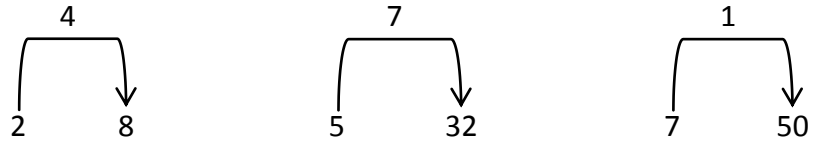
(a) 24 (b) 22 (c) 16 (d) 8 (e) 4

22.

?	3
81	

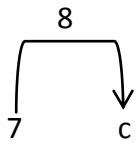
(a) 5 (b) 6 (c) 7 (d) 9 (e) 12

Samples:



Study the above sample and use it to answer questions 23 to 25. (**Hint:** $2^2 + 4 = 8$)

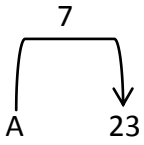
23.



The value of c in the diagram is

(a) 15 (b) 30 (c) 45 (d) 57 (e) 113

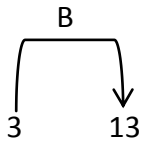
24.



What is the value of A if the diagram?

(a) 3 (b) 4 (c) 5 (d) 6 (e) 7

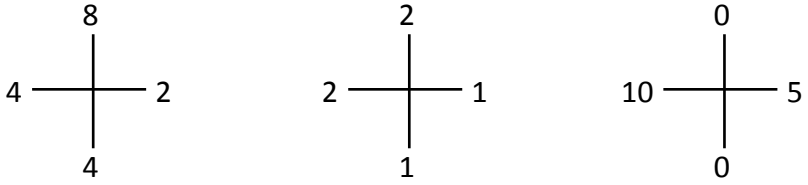
25.



What is the value of B in the diagram?

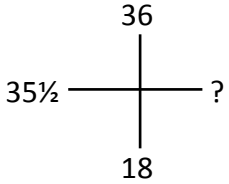
(a) 3 (b) 4 (c) 7 (d) 10 (e) 26

Sample:



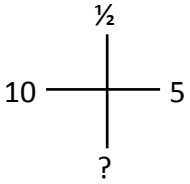
Find the relationship and use it to answer questions 26 to 28. **Hint:** $\frac{4 \times 4}{2} = 8$

26.



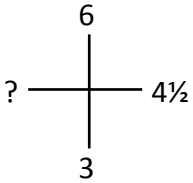
(a) 1 (b) 3 (c) 17¼ (d) 17¾ (e) 18

27.



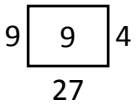
(a) ¼ (b) ½ (c) 2 (d) 5 (e) 15

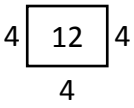
28.

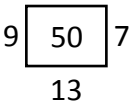


(a) 9 (b) 8 (c) 6 (d) 3 (e) 2

Samples:



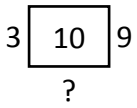




Study the sample above and use it to answer questions 29 to 31.

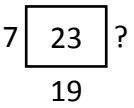
Hint: 9 x 4 – 27 = 9

29.



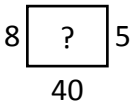
(a) 9
(b) 12
(c) 17
(d) 22
(e) 27

30.



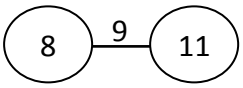
(a) 6
(b) 7
(c) 26
(d) 30
(e) 42

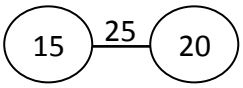
31.

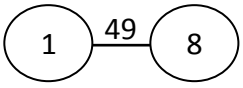


(a) 40
(b) 13
(c) 8
(d) 5
(e) 0

Sample:



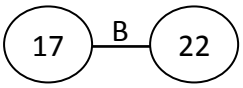




Study the above sample carefully and use it to answer questions 32 to 34.

Hint: $(11 - 8)^2 = 9$

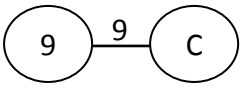
32.



What is the value of B in the diagram?

(a) 9 (b) 16 (c) 25 (d) 49 (e) 64

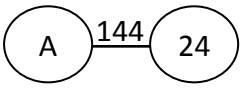
33.



Find C in the diagram.

(a) 3 (b) 6 (c) 9 (d) 12 (e) 15

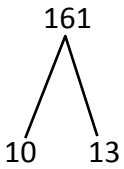
34.



The value of A in the diagram is

(a) 12 (b) 24 (c) 48 (d) 120 (e) 168

Sample:



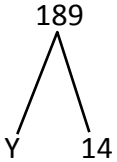
Study the sample above carefully and use it to answer questions 35 to 37.

(**Hint:** (2 + 4) x lm7 = 42)

35.

(a) 96 (b) 84 (c) 72 (d) 60 (e) 14

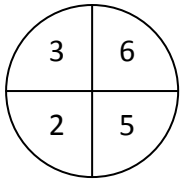
36.

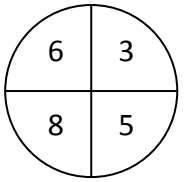


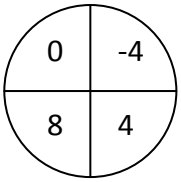
(a) 27 (b) 17 (c) 13 (d) 11 (e) 9

37. 

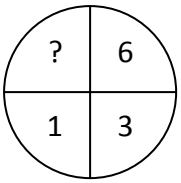
(a) 38 (b) 33 (c) 25 (d) 23 (e) 17

Sample: 

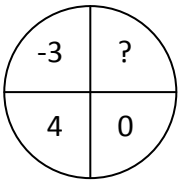




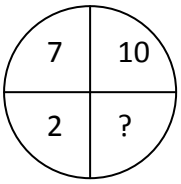
Find the relationship and use it to answer questions 38 to 40. (**Hint:** 6 – 3 = 5 – 2)

38. 

(a) 3 (b) 4 (c) 6 (d) 7 (e) 9

39. 

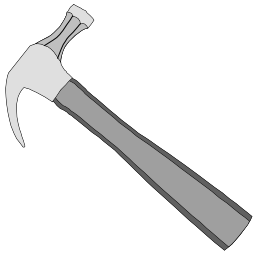
(a) -7 (b) -6 (c) -5 (d) -3 (e) 4

40. 

(a) 2 (b) 5 (c) 7 (d) 8 (e) 10

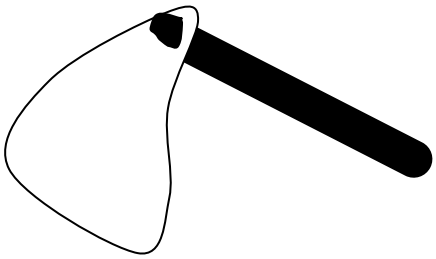
VOCATIONAL APTITUDE

41. There are _____ quadrants in a circle. (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
42. Which of the following is NOT a roofing material? (a) glass (b) grass (c) raffia-palm (d) slate (e) zinc
43. Drivers drive cars, pilots fly planes and captains _____ ships. (a) dive (b) drive (c) ride (d) sail (e) swim
44. A gun is to a hunter as a spanner is to a ____ (a) carpenter (b) mechanic (c) photographer (e) welder
45. The tool shown below is used for ____ (a) carving (b) chiseling (c) digging (e) nailing (e) sawing



46. Which of the following is NOT an agricultural produce? (a) groundnut (b) maize (c) millet (d) palm oil (e) spaghetti

47. House wiring work is done by a/an ___ (a) bricklayer (b) carpenter (c) electrician (d) plumber (e) welder
48. Which of the following is NOT a farming tool? (a) cutlass (b) fork (b) hoe (d) spade (e) trowel
49. The tool shown in the diagram below is called a/an ___ (a) axe (b) cutlass (c) hoe (d) spike (e) shovel



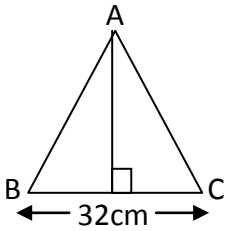
50. A mortar is a mixture of sand, water and ____ (a) cement (b) clay (c) grass (d) gravel (e) mud

NATIONAL COMMON ENTRANCE EXAMINATION 2005

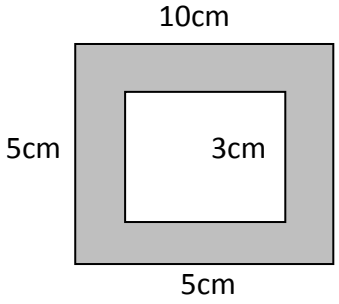
MATHEMATICS

1. Three sisters shared some mangoes in the ratio 5 : 3 : 2, if the one with the smallest ratio received 25 mangoes, find the number of mangoes shared. (a) 50 (b) 80 (c) 120 (d) 125 (e) 130
2. Arrange the following fractions in ascending order. ¾, $^{5}/_{8}$, $^{7}/_{12}$, $^{2}/_{3}$ (a) $^{2}/_{3}$, ¾, $^{5}/_{8}$, $^{7}/_{12}$ (b) ¾, $^{5}/_{8}$, $^{7}/_{12}$, $^{2}/_{3}$ (c) $^{7}/_{12}$, $^{5}/_{8}$, $^{2}/_{3}$, ¾ (d) $^{5}/_{8}$, $^{7}/_{12}$, ¾, $^{2}/_{3}$ (e) $^{2}/_{3}$, ¾, $^{7}/_{12}$, $^{5}/_{8}$
3. The product of three numbers is 216, if the product of two of the numbers is 36, find the third number. (a) 6 (b) 8 (c) 12 (d) 16 (e) 36
4. If a car travels with an average speed of 48km/h and covered a distance of 96km. Calculate the time taken in minutes. (a) 720 (b) 480 (c) 360 (d) 120 (e) 2
5. What is the cost of one hundred and fifteen oranges at 9 kobo each? (a) N1.03 (b) N10.00 (c) N10.35 (d) N103.50 (e) N1035.00
6. Find the sum of N160; N2.52; N3.42; N1.12 and 96k (a) N104.68 (b) N96.40 (c) N10.47 (d) N9.64 (e) N0.96
7. Express 516 in Roman numerals. (a) MLXVI (b) DXVI (c) DVLX (d) DIVX (e) LXVI
8. What is the value of 2 in 1476.25? (a) two thousand (b) two tens (c) two tenths (d) two units (e) two hundredths
9. The prime numbers between 60 and 70 are ____ and ____ (a) 61, 63 (b) 61, 65 (c) 61, 67 (d) 61, 69 (e) 63, 65
10. What is the next number in the sequence; 2, 8, 18, 31, ___? (a) 50 (b) 35 (c) 25 (d) 14 (e) 12
11. Given that C = 3 and d = -2, what is the value of x if x = 2C + d? (a) 2 (b) 3 (c) 4 (d) 6 (e) 8
12. What is the value of y when 7y + 5 = 20? (a) $4^{3}/_{7}$ (b) $3^{1}/_{7}$ (c) $2^{1}/_{7}$ (d) $1^{2}/_{7}$ (e) $^{5}/_{7}$
13. If $\frac{6ab}{18cb} = \frac{\square}{6c}$, find the number in the box. (a) 9a (b) 9b (c) 3b (d) 3a (e) 2a
14. Which of these numbers is the least? (a) 15 (b) 5 (c) -10 (c) -18 (e) -35

15. Think of a number, multiply it by 5 and subtract 15 from the result. If your answer is 25, what is the number? (a) 2 (b) 4 (c) 8 (d) 10 (e) 12
16. If x : 2½ = 4 : 15, find the value of x. (a) 2 (b) 3 (c) 1½ (d) $^{2}/_{3}$ (e) $^{1}/_{3}$
17. Which of these numbers is a perfect cube? (a) 8 (b) 16 (c) 25 (d) 36 (e) 81
18. What is the value of b in the equation: $\frac{b}{3} = \frac{27}{3}$? (a) 3 (b) 9 (c) 24 (d) 27 (e) 30
19. If 2a = 120, what is the value of a + 1? (a) 3 (b) 59 (c) 60 (d) 61 (e) 121
20. What is the expression 4 less by r? (a) 4r (b) 3r (c) r + 4 (d) r – 4 (e) 4 – r
21. What is the difference between 30 and x? (a) 31x (b) 30x (c) 29x (d) 30 – 30x (e) 30 – x
22. The total ages of n students is 118 years, what is the average age of the students? (a) 118n (b) $^{118}/_{n}$ (c) $^{n}/_{118}$ (d) $^{118+n}/_{n}$ (e) $^{118+n}/_{118}$
23. How many k can we get from 10k? (a) 10k (b) 9k (c) k (d) 10 (e) 5
24. In an examination, a boy has to spend x minutes in Part A and 20 minutes in Part B of the questions. How long is the examination? (a) $^{20}/_{X}$ minutes (b) $^{X}/_{20}$ minutes (c) 20x minutes (d) (20 + x) minutes (e) (20 – x) minutes
25. A rectangle and a square have the same perimeter. The rectangle is of length 6cm and has an area of 48cm2, find the length of the square. (a) 28cm (b) 14cm (c) 8cm (d) 7cm (e) 4cm
26. A plane figure bounded by four sides is called a/an ___ (a) triangle (b) quadrilateral (b) pentagon (d) hexagon (e) decagon
27. Calculate the height of the triangle below if its area is 144cm^2. (a) 72cm (b) 36cm (c) 12cm (d) 9.0cm (e) 4.5cm



28. Find the area of the shaded portion in the diagram below. (a) 65cm^2 (b) 50cm^2 (c) 35cm^2 (d) 16cm^2 (e) 15cm^2



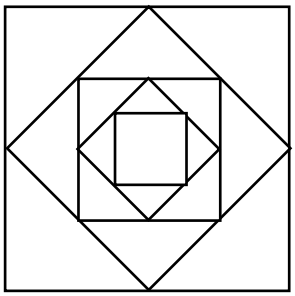
29. Calculate the time when N2,000.00 will yield simple interest of N250.00 at the rate of 5%. (a) 5 years (b) 4 years (c) 2½ years (d) 1½ years (e) 1 year
30. The sum of two right-angles is equal to ___ (a) 360^o (b) 270^o (c) 180^o (d) 120^o (e) 90^o

The marks scored in a mathematics test by ten pupils are as follows: 15, 14, 15, 13, 16, 16, 17, 13, 16 and 17.

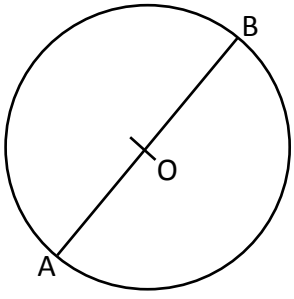
Use the above given data to answer questions 31 to 33.

31. The modal mark is ____ (a) 13 (b) 14 (c) 15 (d) 16 (e) 17
32. What is the average mark? (a) 152 (b) 30.4 (c) 17.0 (d) 15.5 (e) 15.2
33. What is the value of the median mark? (a) 17.5 (b) 16.5 (c) 15.5 (d) 14.5 (e) 13.5
34. There are 5 bottles of Fanta and 3 bottles of Maltina in a freezer. What is the change of a boy picking a Coke bottle in the freezer? (a) 6 (b) 3 (c) 1 (d) ½ (e) 0

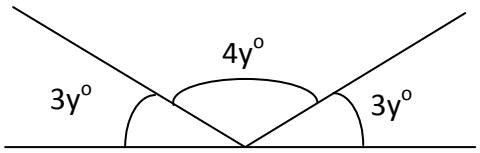
Use the diagram below to answer questions 35 to 37



35. How many squares are there? (a) 6 (b) 5 (c) 4 (d) 3 (e) 2
36. How many triangles are there? (a) 8 (b) 12 (c) 16 (d) 20 (e) 24
37. How many right-angles are there? (a) 4 (b) 5 (c) 8 (d) 10 (e) 20
38. The volume of a rectangular tank is 280cm3. If its breadth and length are 7cm and 8cm respectively, calculate its height. (a) 5cm (b) 19cm (c) 224cm (d) 265cm (e) 15600cm
39. AOB is the diameter of the circle below with O as the center and radius 7cm. find its perimeter. (Take $\pi = {}^{22}/_{7}$). (a) 154cm (b) 49cm (c) 44cm (d) 22cm (e) 14cm



40. Use the information provided in the diagram to find y. (a) 60^o (b) 45^o (c) 40^o (d) 30^o (e) 18^o



GENERAL SCIENCE

41. The following are sources of energy except _____ (a) coal (b) food (c) heat (d) sun
42. Heat can bring about the following processes except (a) burning (b) boiling of liquids (c) change of state (d) expansion of solid (e) rusting of iron.
43. What shape makes a glider to move faster? (a) broad (b) curved (c) oval (d) rectangular (e) streamlined
44. The washing away of the top soil and rocks from the earth's surface is called _____ (a) conservation (b) drainage (c) erosion (d) irrigation (e) pollution
45. Which of the following is a physical change? (a) burning of magnesium ribbon (b) burning of paper (c) burning of wood (d) dissolution of salt in water (e) rusting of iron
46. Which of the following substances is not a good conductor of electricity? (a) aluminium (b) carbon (c) earth (d) glass (e) human body
47. Which of the following is not a blood group? (a) O (b) C (c) AB (d) B (e) A
48. The temperature of boiling water is ____ (a) 0^oC (b) 32^oC (c) -100^oC (d) 100^oC (e) 273^oC
49. How many colours make up white light? (a) 4 (b) 5 (c) 6 (d) 7 (e) 8
50. In determining the volume of a cuboid, which of the following set of its dimensions should be taken? (a) length and breadth only (b) length, breadth and diagonal (c) length, breadth and height (d) length, height and diagonal (e) length and height only.

QUANTITATIVE APTITUDE

Sample: $16 \downarrow 2 = 32$; $15 \uparrow 3 = 5$; $11 \downarrow 5 \uparrow 5 = 11$

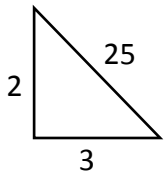
Study and use the sample above to answer questions 1 to 3.

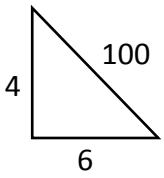
1. $9 \downarrow 3 =$ (a) 3 (b) 6 (c) 12 (d) 27 (e) 81

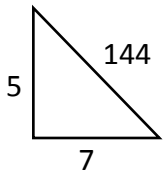
2. $35 \uparrow 7 =$ (a) 5 (b) 28 (c) 42 (d) 84 (e) 245

3. $7 \downarrow 3 \uparrow 2 =$ (a) 2 (b) 4 2/3 (c) 6 (d) 10 ½ (e) 12

Sample:

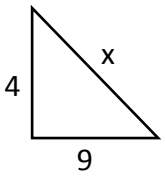




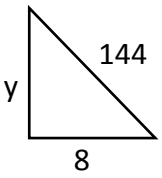


Use the above sample to answer questions 4 to 6. (**Hint:** $(2 + 3)^2 = 25$

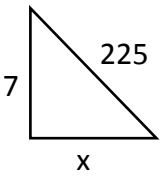
4. (a) 2¼
(b) 5
(c) 13
(d) 36
(e) 169



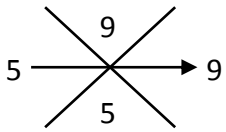
5. (a) 136
(b) 18
(c) 12
(d) 4
(e) 2

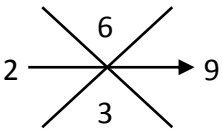


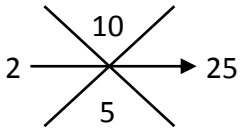
6. (a) 218
(b) 34.14
(c) 15
(d) 8
(e) 6



Sample:

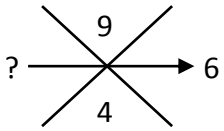






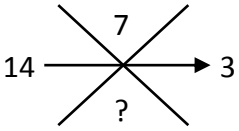
Study and use the samples above to answer questions 7 to 9. **Hint:** $\frac{6 \times 3}{2} = 9$

7.



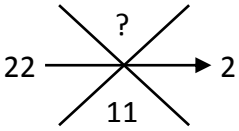
(a) 2 1/6 (b) 3 ¾ (c) 6 (d) 9 (e) 33

8.



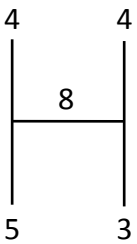
(a) 6 (b) 7 (c) 19 (d) 24 (e) 35

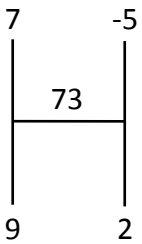
9.

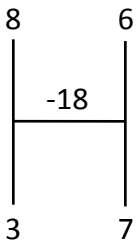


(a) 4 (b) 9 (c) 20 (d) 35 (e) 44

Sample:

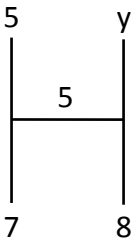






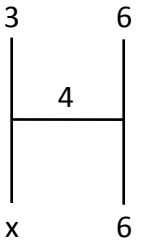
Use the above sample to answer questions 10 to 12. (**Hint:** 4 x 5 – 4 x 3 =8)

10.



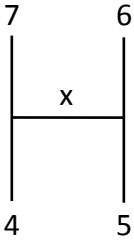
(a) -2
(b) 2
(c) 3
(d) 4
(e) 5

11.



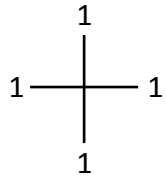
(a) 0
(b) 2
(c) 4
(d) 5
(e) 6

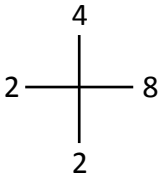
12.

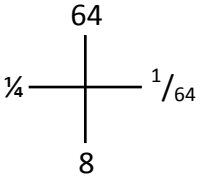


(a) -1
(b) -2
(c) 2
(d) 3
(e) 4

Sample:



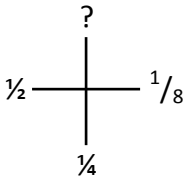




Use the above sample to answer questions 13 to 15. **Hint:** $8^2 = 64$

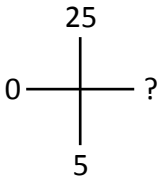
$(^1/_4)^3 = {}^1/_{64}$

13.



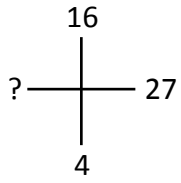
(a) 4
(b) 2
(c) $^5/_8$
(d) ¼
(e) $^1/_{16}$

14.



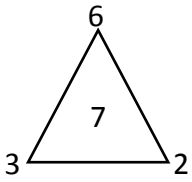
(a) 125
(b) 120
(c) 25
(d) 5
(e) 0

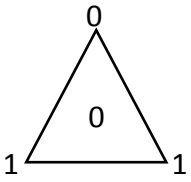
15.

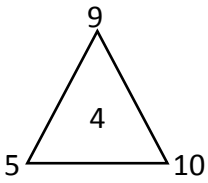


(a) 2
(b) 3
(c) 4
(d) 27
(e) 31

Sample:

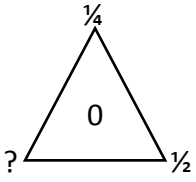






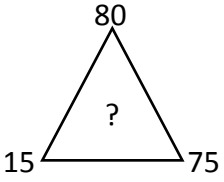
Use the sample above to answer questions 16 to 19. (**Hint:** 6 + 3 – 2 = 7)

16.



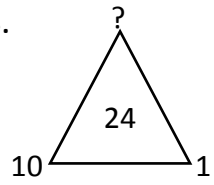
(a) 0
(b) $^1/_8$
(c) ¼
(d) ½
(e) ¾

17.



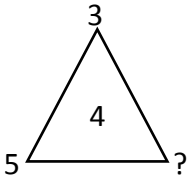
(a) 95
(b) 90
(c) 65
(d) 20
(e) 10

18.



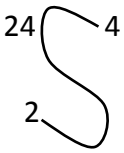
(a) 34
(b) 25
(c) 23
(d) 15
(e) 11

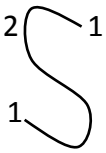
19.

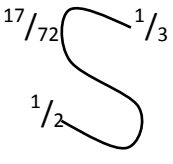


(a) 12
(b) 8
(c) 4
(d) 2
(e) 0

Sample:



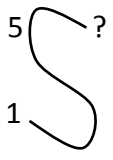




Study the sample above and use it to answer questions 20 to 22.

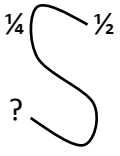
Hint: $(^1/_2)^2 + (^1/_3)^2 = {}^{17}/_{72}$

20.



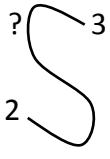
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

21.



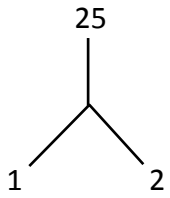
(a) 0
(b) ½
(c) 1
(d) 1½
(e) 2

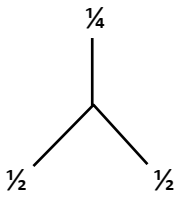
22.

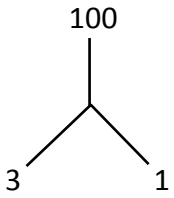


(a) 6
(b) 12
(c) 17
(d) 18
(e) 35

Sample:



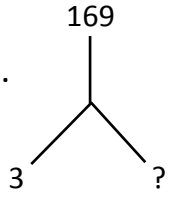




Study the sample above carefully and use it to answer questions 23 to 25.

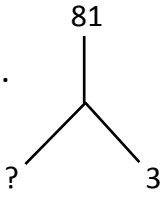
Hint: $(2^2 + 1^2)^2 = 25$

23.



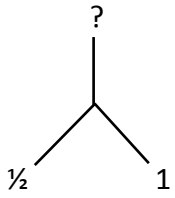
(a) 2
(b) 4
(c) 6
(d) 8
(e) 10

24.



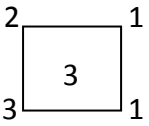
(a) 0
(b) 1
(c) 3
(d) 4
(e) 6

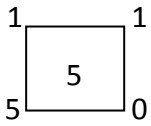
25.

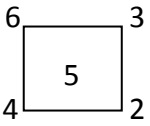


(a) 2¼
(b) $1^9/_{16}$
(c) 1¼
(d) 1½
(e) 1

Study the sample below carefully and use it to answer questions 26 to 30.

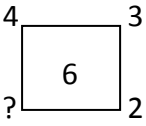






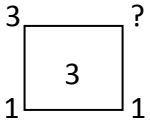
Hint: 6 + 4 – 3 + 2 = 5

26.



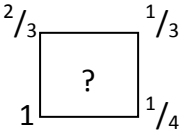
(a) 1 (b) 2 (c) 5 (d) 6 (e) 7

27.



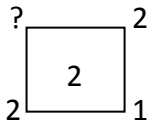
(a) 9 (b) 3 (c) 2 (d) 1 (e) 0

28.



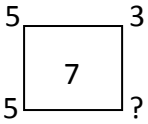
(a) $2^1/_4$ (b) $1^1/_3$ (c) $1^1/_{12}$ (d) $^{11}/_{12}$ (e) $^1/_{12}$

29.



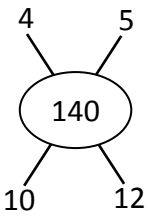
(a) 0 (b) ½ (c) 1 (d) 2 (e) 3

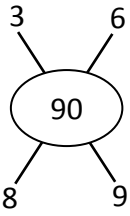
30.

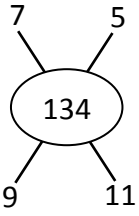


(a) 0 (b) 1 (c) 2 (d) 4 (e) 8

Sample:



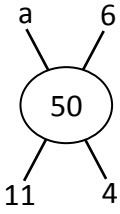




Study the above sample and use it to answer questions 31 to 33.

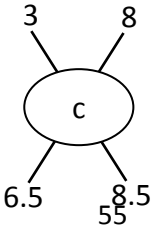
Hint: 4 x 5 + 10 x 12 = 140

31.



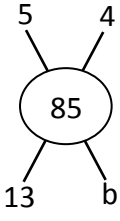
(a) 10
(b) 8
(c) 6
(d) 4
(e) 1

32.

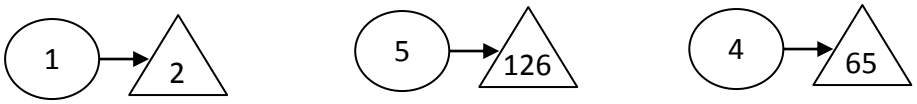


(a) 120
(b) 79.5
(c) 79.25
(d) 65.25
(e) 45.5

33.

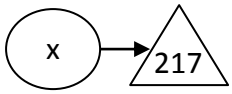


(a) 15
(b) 9
(c) 8
(d) 5
(e) 3

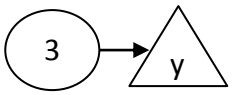
Sample: 

Study the above samples and use it to answer questions 34 and 35.

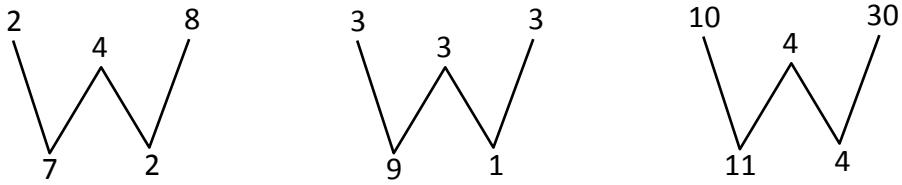
Hint: $5^3 + 1 = 126$

34. 

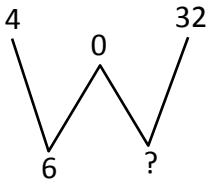
(a) 10 (b) 8 (c) 6 (d) 3 (e) 2

35. 

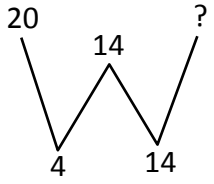
(a) 10 (b) 15 (c) 21 (d) 28 (e) 32

Sample: 

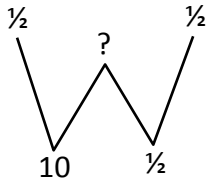
Hint: 2 + 4 + 8 = 7 x 2

36. 

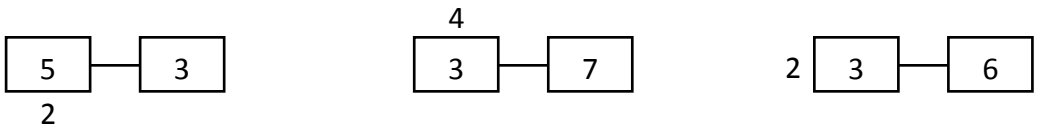
(a) 4 (b) 6 (c) 24 (d) 28 (e) 30

37. 

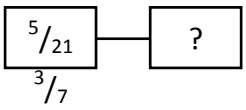
(a) 34 (b) 28 (c) 24 (d) 22 (e) 16

38. 

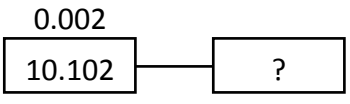
(a) ½ (b) ¼ (c) 2 (d) 4 (e) 5

Sample: 

Use the above sample to answer questions 39 and 40.

39. 

(a) $^2/_3$ (b) $^4/_7$ (c) $-^2/_3$ (d) $-^4/_{21}$ (e) $-^5/_7$

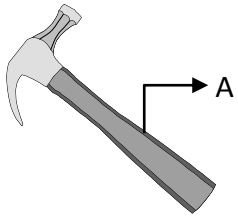
40. 

(a) 5.05
(b) 10.100
(c) 10.104
(d) 20.102
(e) 20.204

VOCATIONAL APTITUDE

41. A dentist is to the tooth as an optician is to the ____ (a) blood (b) bone (c) brain (d) eye (e) nose
42. The person that works on water system in our homes is called ___ (a) bricklayer (b) electrician (c) mechanic (d) plumber (e) welder

43. Which of the following items does not conduct electricity? (a) aluminium (b) copper (c) iron (d) plastic (e) wet wood
44. A building can collapse if the foundation is ___ (a) large (b) heavy (c) small (d) strong (e) weak
45. The instrument used for measuring temperature is _____ (a) anemometer (b) rainguage (c) speedometer (d) thermometer (e) windvane
46. Doctors treat patients while bricklayers (a) build houses (b) cultivate farms (c) make furniture (d) paint houses (e) repair cars
47. The apparel used in welding workshop to prevent injury to the hands is called ___ (a) band (b) gloves (c) goggles (d) helmet (e) shield
48. The part labeled "A" in the diagram below is the _____ (a) apex (b) handle (c) head (d) stock (e) tail



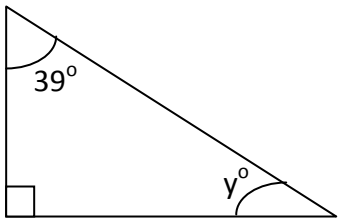
49. The following items are means of communication EXCEPT ____ (a) radio (b) stabilizer (c) telephone (d) television (e) video
50. Crude oil is to petroleum as iron ore is to _____ (a) clay (b) metal (c) plastic (d) rubber (e) wood

NATIONAL COMMON ENTRANCE EXAMINATION 2008

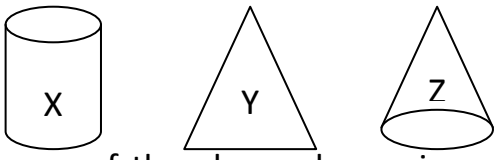
MATHEMATICS

1. Write in figure, one hundred and forty-eight thousand and sixty. (a) 148,660 (b) 148,600 (c) 148,060 (d) 140,860 (e) 140,806
2. Approximate 50,925 to the nearest thousand and subtract from 26,800. (a) -50,000 (b) -34,000 (c) -24,000 (d) -11,000 (e) -20,000
3. In 954,716, what does 5 stand for? (a) 5,000,000 (b) 500,000 (c) 50,000 (d) 500 (e) 50
4. Which of the following is a perfect square? (a) 30 (b) 56 (c) 80 (d) 121 (e) 130
5. The expression x < y implies that (a) x is equal to y (b) x is greater than y (c) x is greater than or equal to y (d) x is less than y (e) x is less than or equal to y
6. The product of two numbers is 24, if one of the numbers is -3, find the second number. (a) -8 (b) -6 (c) 4 (d) 6 (e) 8
7. If $\frac{6pq}{18rq} = \frac{\square}{6r}$. Find the number in the box. (a) 2p (b) 2q (c) 3p (d) 3q (e) 9p
8. Write 1993 in Roman numerals. (a) CMXCMIII (b) MMCXCIII (c) MCMXCIII (d) MCMIIICX (e) MCMIIIXC
9. If 4 : 15 = a : 2½, find the value of a. (a) $^1/_3$ (b) $^2/_3$ (c) 1½ (d) 2 (e) 3
10. Find the value of m in the equations $\frac{m}{4} = \frac{42}{2}$ (a) 8 (b) 16 (c) 42 (d) 84 (e) 198
11. If Z + 2 = 8, what is Z^2 + 5? (a) 6 (b) 10 (c) 25 (d) 36 (e) 41
12. If 6x + 3x – x = 24, find the value of x (a) 24 (b) 9 (c) 8 (d) 3 (e) 2
13. Simplify the expression 4x + 45y – 3x – 40y. (a) 7x + 5y (b) 7x + 4y (c) x + 5y (d) x – 5y (e) x – 4y
14. Find the square root of $13^4/_9$. (a) $3^1/_9$ (b) $3^2/_9$ (c) 3¼ (d) $3^1/_3$ (e) $3^2/_3$
15. If the volume of a cube is 216cm^3, find the length of the cube. (a) 3cm (b) 4cm (c) 5cm (d) 6cm (e) 7cm
16. A square is of length 15cm and has an area of 225cm^2, find its breadth. (a) 13cm (b) 15cm (c) 25cm (d) 30cm (e) 60cm
17. Find x if $\frac{7x+4}{2} = 9$ (a) 18 (b) 14 (c) 8 (d) 4 (e) 2
18. Solve the equation 2a + 7a + 3 = 30. (a) 6 (b) 5 (c) 4 (d) 3 (e) 2
19. Find the value of m^2 if m + 50 = 40. (a) 100 (b) 90 (c) 10 (d) -10 (e) -5

20. How many weeks are there in 49 days? (a) 9 (b) 8 (c) 7 (d) 6 (e) 5
21. Find the sum of all odd numbers between 24 and 36. (a) 238 (b) 180 (c) 178 (d) 60 (e) 40
22. If y = 11, what is the value of x in $= \frac{8-y}{3}$? (a) 10 (b) $^{14}/_{3}$ (c) $^{3}/_{14}$ (d) -1 (e) $-4^{2}/_{3}$
23. What is the square root of $^{9}/_{16}m^2t^2$? (a) $^{9}/_{4}$mt (b) ¾mt (c) $^{9}/_{16}$mt (d) $^{3}/_{16}$mt (e) ¾m^2t^2
24. Find the HCF of 96, 120 and 144. (a) 720 (b) 144 (c) 48 (d) 42 (e) 24
25. Find 40 + 60 in roman numerals. (a) XL (b) LX (c) XC (d) C (e) CX
26. A line that divides a circle into two equal parts is called a ____ (a) segment (b) radius (c) diameter (d) diagonal (e) circumference
27. The sum of angles on a straight line is equal to ____ (a) 90^o (b) 120^o (c) 180^o (d) 270^o (e) 360^o
28. A plane figure bounded by three straight line is called a ____ (a) decagon (b) hexagon (c) pentagon (d) quadrilateral (e) triangle
29. What is the value of angle marked y^o in the figure below? (a) 141^o (b) 129^o (c) 90^o (d) 51^o (e) 45^o

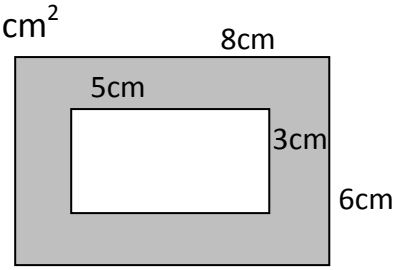


30. A cube has how many edges? (a) 2 (b) 4 (c) 6 (d) 8 (e) 12
31. The length of a rectangle is twice its breadth, if the perimeter of the rectangle is 36cm, find the length of the rectangle. (a) 6cm (b) 8cm (c) 12cm (d) 18cm (e) 36cm
32. What is the circumference of a circle whose radius is $^{7}/_{2}$cm ($\pi = {}^{22}/_{7}$)? (a) 66cm (b) 44cm (c) 33cm (d) 22cm (e) 21cm
33. If y = 1, x = 3 and z = 5, find the value of m in $\mathrm{m} = \mathrm{x}\left(\frac{\mathrm{x}}{\mathrm{y}+9}\right)2\mathrm{z}$ (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

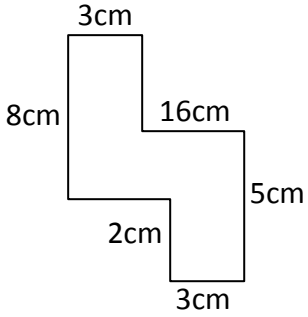


34. What are the names of the above shapes in order from x to z? (a) cylinder, cone and triangle (b) triangle, cone and cylinder (c) cylinder, triangle and cone (d) cone, cylinder and triangle (e) triangle, cylinder and cone

35. Find the area of the shaded portion in the diagram below. (a) $48cm^2$ (b) $33cm^2$ (c) $30cm^2$ (d) $28cm^2$ (e) $15cm^2$



36. The area of the figure below in cm^2 is _____ (a) 56 (b) 76 (c) 86 (d) 112 (e) 118



37. Find the area of a circle whose diameter is 14cm. ($\pi = {}^{22}/_{7}$). (a) $140cm^2$ (b) $144cm^2$ (c) $154cm^2$ (d) $164cm^2$ (e) $540cm^2$
38. A student spend N70.00, N60.00, N30.00, N100.00, N90.00 and N70.00 in six days. What is the average amount spent per day? (a) N30.00 (b) N60.00 (c) N70.00 (d) N90.00 (e) N100,00

Use the following set of numbers to answer questions 39 and 40.

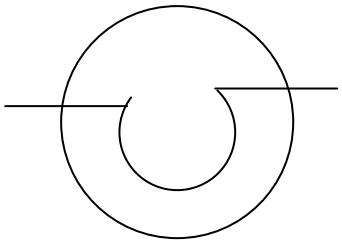
5, 8, 6, 6, 9, 4, 3, 7, 5, 8, 2, 6, 1

39. What is the mode of the numbers? (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
40. Find the median of the numbers. (a) 1 (b) 3 (c) 4 (d) 6 (e) 9

GENERAL SCIENCE

41. The control centre of the body is the (a) brain (b) eye (c) heart (d) lung (e) stimulus
42. Purification methods include the following EXCEPT _____ (a) crystallization (b) filtration (c) ovation (d) precipitation (e) sublimation
43. The instrument used in measuring air pressure is the ____ (a) barometer (b) hydrometer (c) hypsometer (d) manometer (e) thermometer
44. Which of the following is the greatest source of energy? (a) coal (b) electricity (c) fuel (d) kerosene (e) sun

45. Diabetes means excess ____ (a) blood in the body (b) fat in the body (c) protein in the body (d) sugar in the blood (e) water in the blood
46. Which of the following will not prevent erosion? (a) cutting trees (b) planting cover crops (c) planting trees (d) terracing (e) reducing grazing



47. The diagram above represents the symbol for a ___ (a) bulb (b) cell (c) circuit (d) fuse (e) switch
48. The main agent of soil erosion in desert region is ____ (a) glacier ice (b) soil structure (c) sun (d) water (e) wind
49. Air can be polluted by the following except ____ (a) carbon II oxide (b) dust (c) nitrogen (d) smoke (e) sulphur IV oxide
50. The process whereby water is changed to steam is ____ (a) boiling (b) condensation (c) evaporation (d) freezing (e) sublimation

QUANTITATIVE APTITUDE

8 △ 4 = 12

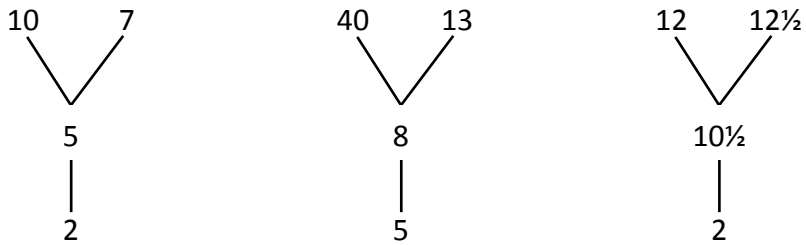
10 ▽ 2 = 5

(16 △ 8) ▽ 4 = 6

Use the above samples to answer questions 1 to 3

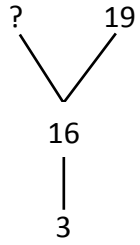
1. $\frac{48 \triangledown 6}{6 \triangle 2}$ (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
2. (60 ▽ 12) △ 6 (a) 15 (b) 14 (c) 13 (d) 12 (e) 11
3. (24 △ 10) ▽ 5 (a) 7 (b) 8 (c) 9 (d) 10 (e) 11

Samples:

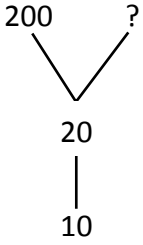


Hint: 2 + 5 = 7

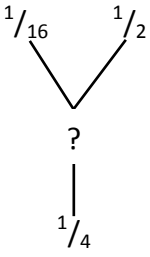
2 x 5 = 10

4. 

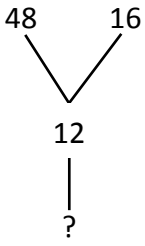
(a) 3
(b) 16
(c) 19
(d) 35
(e) 48

5. 

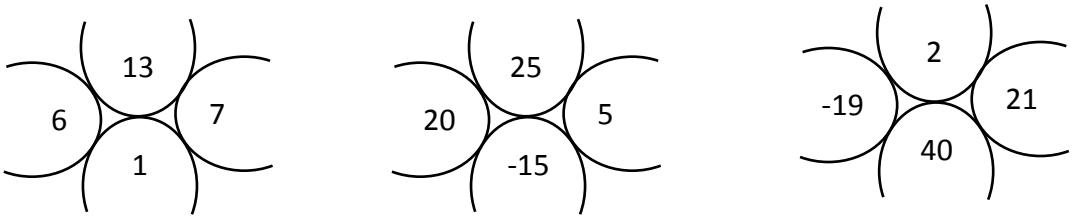
(a) 20
(b) 30
(c) 180
(d) 210
(e) 223

6. 

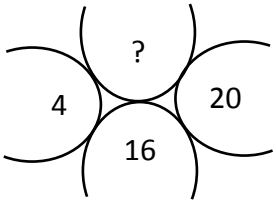
(a) $^{7}/_{16}$
(b) $^{5}/_{16}$
(c) ¼
(d) $^{1}/_{8}$
(e) $^{1}/_{32}$

7. 

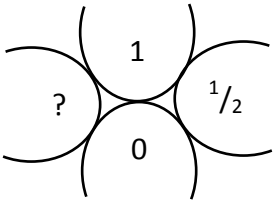
(a) 60
(b) 36
(c) 32
(d) 28
(e) 4

Samples: 

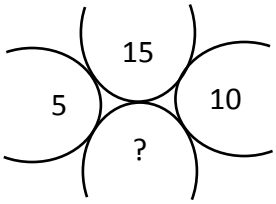
Use the above sample to answer questions 8 to 11. (Hint: 6 + 7 = 13 | 7 – 6 = 1)

8. 

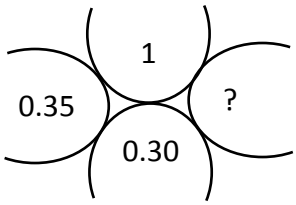
(a) 35
(b) 24
(c) 20
(d) 14
(e) 12

9. 

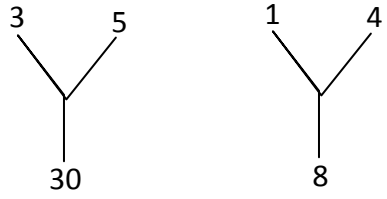
(a) $^{2}/_{3}$
(b) $^{1}/_{2}$
(c) $^{3}/_{4}$
(d) $-^{1}/_{2}$
(e) -1

10. 

(a) 5
(b) 11
(c) 15
(d) 20
(e) 25

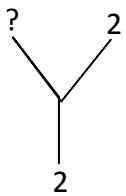
11. 

(a) 0.75
(b) 0.65
(c) 0.40
(d) 0.15
(e) 0.30

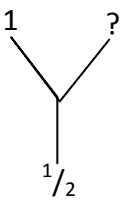
Sample: 

Hint: 3 x 5 x Im2 = 30
Im2(3 x 5) = 30

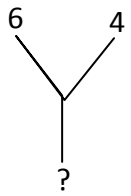
Use the samples above to answer questions 12 to 14.

12. 

(a) 4
(b) 2
(c) 1
(d) ½
(e) ¼

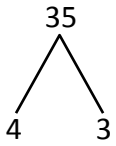
13. 

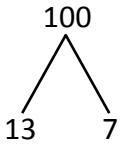
(a) $1^{1}/_{2}$
(b) 1
(c) ¾
(d) ¼
(e) –¾

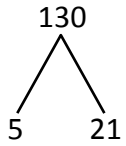
14. 

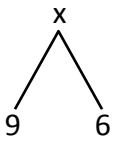
(a) 24
(b) 32
(c) 48
(d) 60
(e) 64

Study the samples below and then answer questions 15 to 17. (Hint: Im5(4 + 3) = 35)

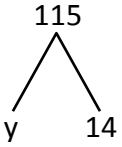




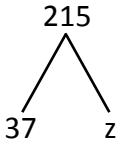


15. 

(a) 15
(b) 30
(c) 50
(d) 75
(e) 85

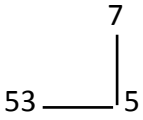
16. 

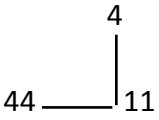
(a) 5
(b) 7
(c) 9
(d) 12
(e) 15

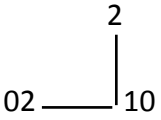
17. 

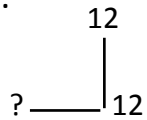
(a) 6
(b) 8
(c) 12
(d) 15
(e) 18

Study the samples below to answer questions 18 to 20. Hint: 7 x 5= 35 |Reverse = 53

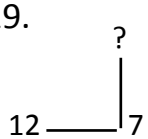




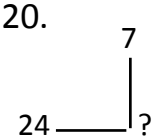


18. 

(a) 0
(b) 12
(c) 144
(d) 414
(e) 441

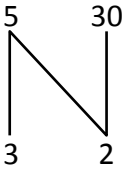
19. 

(a) 3
(b) 5
(c) 19
(d) 84
(e) 127

20. 

(a) 151
(b) 49
(c) 42
(d) 31
(e) 6

Samples:



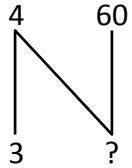
Study the samples above and then answer questions 21 to 24. (Hint: 3 x 5 x 2 = 30)

21. 

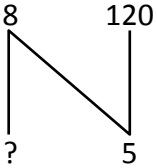
(a) 5
(b) 6
(c) 7
(d) 24
(e) 29

22. 

(a) 10
(b) 11
(c) 12
(d) 30
(e) 60

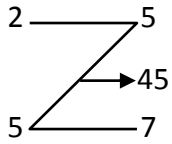
23. 

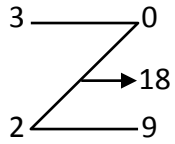
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

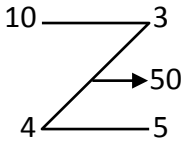
24. 

(a) 3
(b) 9
(c) 13
(d) 15
(e) 40

Samples:

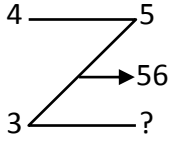






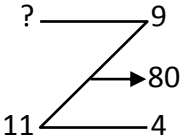
Study the above samples to answer questions 25 to 27. (Hint: 2 x 5 + 5 x 7 = 45)

25.



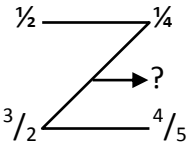
(a) 4
(b) 8
(c) 12
(d) 16
(e) 20

26.



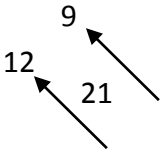
(a) 4
(b) 8
(c) 12
(d) 16
(e) 20

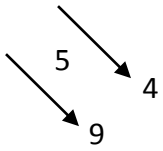
27.

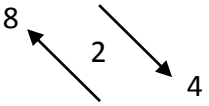


(a) $^{23}/_{40}$
(b) $^{33}/_{40}$
(c) $^{43}/_{40}$
(d) $^{53}/_{40}$
(e) $^{63}/_{40}$

Samples:

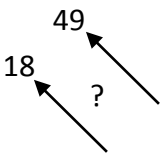






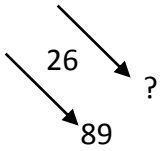
Use the above samples to answer questions 28 to 30. (Hint: [+, -1, ÷])

28.



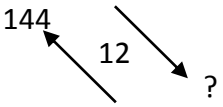
(a) 67
(b) 82
(c) 93
(d) 104
(e) 109

29.



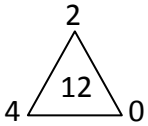
(a) 23
(b) 30
(c) 43
(d) 50
(e) 63

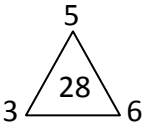
30.

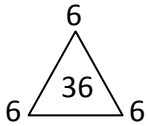


(a) 10
(b) 12
(c) 14
(d) 16
(e) 18

Samples:

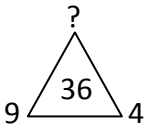






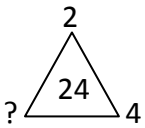
Use the above samples to answer questions 31 to 33. [Hint: Im2(6 + 6 + 6) = 36)]

31.



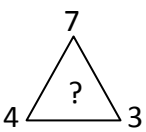
(a) 0
(b) 4
(c) 5
(d) 13
(e) 23

32.



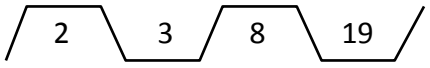
(a) 4
(b) 6
(c) 12
(d) 16
(e) 18

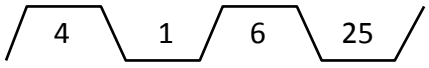
33.

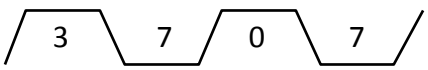


(a) 10
(b) 13
(c) 14
(d) 26
(e) 28

Samples:







Use the above samples to answer questions 34 to 37. (Hint: 2 x 8 + 3 = 19)

34. 2 5 9 ?

(a) 23 (b) 24 (c) 25 (d) 26 (e) 27

35. 3 ? 7 26

(a) 9 (b) 8 (c) 7 (d) 6 (e) 5

36. ? 0 7 56

(a) 8 (b) 9 (c) 10 (d) 11 (e) 12

37. 4 2 ? 14

(a) 0 (b) 1 (c) 2 (d) 3 (e) 4

Samples:

144	24	96
36	6	24
12	2	8
6	1	4

Study the samples above and then answer questions 38 to 40. (Hint: Multiply by Im2, 3, 4)

38.

120
30
10
?

(a) 50
(b) 40
(c) 5
(d) 4
(e) 1

39.

108
27
?
4½

(a) 3
(b) 4
(c) 9
(d) 13½
(e) 18

40.

?
3
1
1½

(a) $1^1/_2$
(b) 4
(c) $4^1/_2$
(d) 6
(e) 12

VOCATIONAL APTITUDE

41. The major source of fuel for trains in the past is ____ (a) coal (b) diesel (c) kerosene (d) petrol (e) wood
42. Two dry grains of corn have the same weight. If one of them is popped (as in pop-corn), the popped one will now be _____ than the dry grain. (a) better (b) heavier (c) lighter (d) same as (e) smaller
43. The instrument (figure 1) used for checking straightness and levelage of a wall is called ____ (a) line (b) plum (c) ruler (d) trysquare (e) theodolite

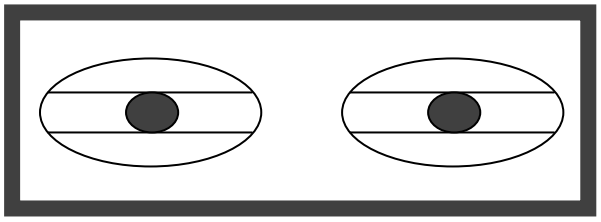


Figure 1

44. Which one of the following material produces ceramics? (a) clay (b) lime (c) metal (d) sand (e) stone
45. The most suitable animal for travelling in a desert area is the ____ (a) camel (b) dog (c) donkey (d) cow (e) rhinoceros
46. How many faces has the prism in the diagram labeled figure 2 below? (a) 2 (b) 3 (c) 4 (d) 5 (e) 6

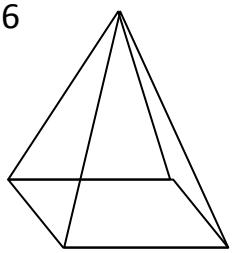


Figure 2

47. Which of the following shapes will occur when the box in figure 3 is expanded from the direction of arrow x?

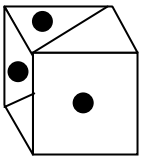
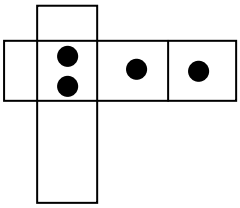
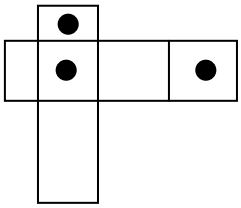
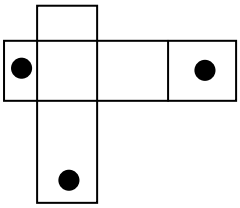
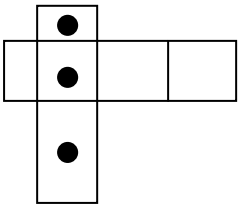


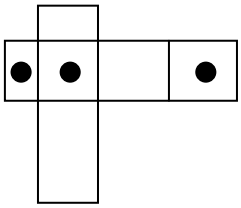
Figure 3

(a) 

(b) 

(c) 

(d) 

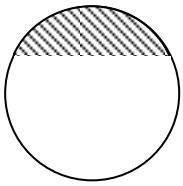
(e) 

48. A person who specializes in the treatment of diseases of the eye is called a/an ___ (a) dentist (b) dermatologist (c) horologist (d) ophthalmologist (e) surgeon
49. Which of the following professionals is in charge of maintenance of electronic equipment? (a) architect (b) dentist (c) doctor (d) engineer (e) surveyor
50. What is the name of the place where aeroplanes are kept? (a) airfield (b) garage (c) hangar (d) harbour (e) jetty

NATIONAL COMMON ENTRANCE EXAMINATION 2010

MATHEMATICS

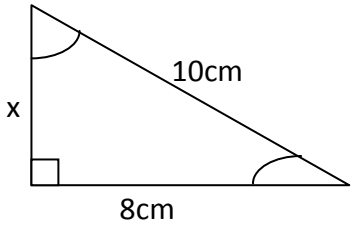
1. Write in figure: sixty-nine thousand and ten. (a) 69,010 (b) 69,110 (c) 69,111 (d) 69,120 (e) 691,010
2. Express 1998 in Roman numerals. (a) MMXCVIII (b) MCMXCVIII (c) MCCMXCXIII (d) MXCVIII (e) MCDXCVIII
3. Approximate 79,469 to the nearest hundred. (a) 70,000 (b) 79,000 (c) 79,400 (d) 79,500 (e) 79,470
4. Simplify $4^4/_5 - {}^3/_5 + ½$ (a) $3^2/_3$ (b) $3^3/_5$ (c) $4^7/_{10}$ (d) $5^1/_5$ (e) $7^4/_5$
5. What is the place value of 3 in 48,372? (a) hundreds (b) tens (c) tenth (d) hundredth (e) thousandth
6. Find the HCF of 9, 18 and 27. (a) 3 (b) 6 (c) 9 (d) 12 (e) 18
7. Find the square root of $^9/_{16}$m2t2 (a) $^3/_4$mt (b) $^3/_{18}$mt (c) $^9/_{16}$mt (d) $^{9mt}/_4$ (e) $^3/_4m^2t^2$
8. Increase N3,000 by 25% (a) N750.00 (b) N2,250.00 (c) N3,250.00 (d) N3,500.00 (e) N3,750.00
9. The shaded portion of the circle below is called a _____ (a) diameter (b) radius (c) sector (d) semi-circle (e) segment



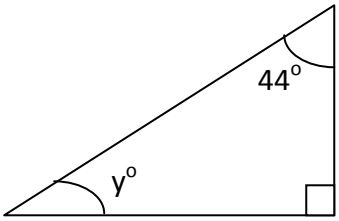
10. Which of these numbers is not a perfect square? (a) 225 (b) 144 (c) 49 (d) 45 (e) 36
11. A man paid N240.00 for 3 six inch blocks. How much would he have to pay for 5 of such blocks? (a) N40.00 (b) N240.00 (c) N300.00 (d) N400.00 (e) N1,200.00
12. A vendor is paid N500.00 per day for every sales he makes per day. Calculate his total wage in three weeks. (a) N10,500.00 (b) N7,400.00 (c) N3,500.00 (d) N1,500.00 (e) N1,000.00
13. Emeka and Bello shared a sum of N15,000 in the ration of 5 : 3. Find the amount Emeka received. (a) N9,375.00 (b) N7,750.00 (c) N5,625.00 (d) N3,550.00 (e) N2,225.00

14. Solve for x in the equation $5x - 4 = 2x + 20$. (a) 3 (b) 5 (c) 8 (d) 22 (e) 40
15. The fifth term of the number pattern 15, 10, 5, 0 is (a) 15 (b) 10 (c) 5 (d) 0 (e) -5
16. Olu thinks of a number, doubles it and adds 3, the result is 13. What is the number? (a) 3 (b) 5 (c) 10 (d) 13 (e) 16
17. Find the sum of prime numbers between 1 and 12. (a) 48 (b) 42 (c) 36 (d) 30 (e) 28
18. A boy is 15 years old now, what will be his age in "n" years time? (a) (15 – n) years (b) (n – 15)years (c) $^{15}/_{n}$ years (d) (15 + n) years (e) 15n years
19. What is the number whose two-third is 18? (a) 6 (b) 12 (c) 27 (d) 36 (e) 54
20. Express $^{1}/_{8}$ as a percentage. (a) 80% (b) 12.50% (c) 8% (d) 7.25% (e) 6.25%
21. Find the sum of 17.426, 9.89 and 3.4. (a) 30.716 (b) 30.706 (c) 30.616 (d) 29.716 (e) 17.449
22. Each face of a cuboid is in the shape of a (a) circle (b) hexagon (c) rectangle (d) square (e) triangle
23. Chike is 4cm taller than Ada. If Ada is ycm tall, what is Chike's height? (a) (4 + y) cm (b) (4 – y)cm (c) ($^{4}/_{y}$)cm (d) 4ycm (e) $4y^2$cm
24. Chioma and Audu shared 24 oranges in the ratio of 3 : 5. How many oranges did Audu receive? (a) 2 (b) 8 (c) 9 (d) 15 (e) 24
25. Arrange the following in ascending order: 15, 5, -10, -18, -35 (a) 15, 5, -10, -18, -35 (b) -13, -18, 15, -10, 5 (c) 5, -10, 15, -18, -35 (d) -35, -18, -10, 5, 15 (e) -35, -18, 5, -10, 15
26. The three angles of a triangle are in the ratio 2 : 4 : 6. Calculate the size of the smallest angle. (a) 30^o (b) 60^o (c) 90^o (d) 120^o (e) 150^o
27. Find the value of $\frac{x-y}{x+y}$ if x = 2 and y = 1. (a) 1½ (b) $1^{1}/_{3}$ (c) ½ (d) $^{1}/_{3}$ (e) 0
28. If $^{x}/_{4} = 100$, what is the value of $^{x}/_{2}$? (a) 400 (b) 300 (c) 200 (d) 100 (e) 50
29. If $^{2x}/_{5} = 10$, what is the value of x? (a) 50 (b) 45 (c) 35 (d) 25 (e) 20
30. What is the breadth of a rectangle whose length and area are 8cm and $40cm^2$ respectively? (a) 320cm (b) 53cm (c) 40cm (d) 8cm (e) 5cm
31. The area of a square plot is $961m^2$. What is the value of one side of the plot? (a) 39m (b) 31m (c) 29m (d) 21m (e) 11m

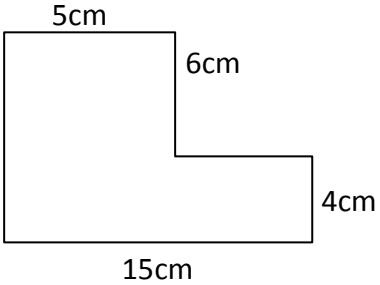
32. I bought a loaf of bread and gave $^{7}/_{12}$ of it to my brother, what fraction of the bread remains? (a) $1^{7}/_{12}$ (b) $1^{5}/_{12}$ (c) $^{7}/_{12}$ (d) $^{5}/_{12}$ (e) $^{3}/_{12}$
33. In what time will N450.00 yield N27.00 interest at the rate of 2% per annum? (a) 8 years (b) 3½ years (c) 3 years (d) 2 years (e) 2½ years
34. What is the time when the long hand of a clock is on five and its short hand is between two and three? (a) twenty-five minutes to two (b) twenty-five minutes past two (c) five minutes past two (e) two minutes to five
35. What is the value of the side marked x in the diagram below? (a) 13cm (b) 12cm (c) 6cm (d) 4cm (e) 2cm



36. What is the value of the angle y in the figure below? (a) 90^{o} (b) 46^{o} (c) 44^{o} (d) 14^{o} (e) 02^{o}



37. Find the perimeter of the figure shown below. (a) 50m (b) 40m (c) 30m (d) 11m (e) 8m



The mark scored in primary science by ten pupils are as follow: 16, 14, 13, 16, 18, 19, 20, 15, 18, 18.

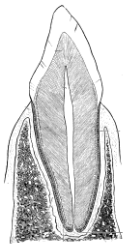
Use the above given data to answer questions 38 to 40.

38. What is the modal mark? (a) 14 (b) 15 (c) 16 (d) 18 (e) 20
39. What is the average mark? (a) 21 (b) 19 (c) 17 (d) 15 (e) 13
40. What is the value of the median mark? (a) 16.0 (b) 16.7 (c) 17.0 (d) 19.7 (e) 20.0

GENERAL SCIENCE

41. The part of the flower which produces pollen grain is called ___ (a) anther (b) ovary (c) petal (d) pistil (e) stigma
42. The bone of the head is referred to as the ____ (a) femur (b) humerus (c) scapula (d) skull (e) ulna
43. An alkali turns the colour of moist litmus paper from red to _____ (a) blue (b) brown (c) green (d) white (e) yellow
44. Which of the following is NOT a form of energy? (a) electrical (b) heat (c) light (d) sound (e) water
45. The heat transfer that takes place in a metal spoon when heated is called (a) condensation (b) conduction (c) convection (d) evaporation (e) radiation
46. By what method would you separate iron fillings from saw dust? (a) distillation (b) evaporation (c) magnetization (d) separation (e) vaporization

    Study the diagram below and use it to answer question 47.



47. The type of tooth represented in the diagram is a/an ____ (a) canine (b) incisor (c) milk (d) molar (e) premolar
48. The process by which water molecules escape into the atmosphere when heated is called ____ (a) condensation (b) distillation (c) evaporation (d) filtration (e) purification.
49. Which of the following is an example of a conductor of electricity? (a) carbon rod (b) cotton wool (c) glass (d) plastic (e) wood
50. Which type of blood cell helps to fight bacteria in the body? (a) blood clothing (b) blood plasma (c) platelet (d) red blood cell (e) white blood cell

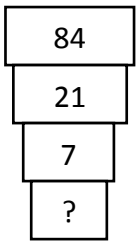
QUANTITATIVE APTITUDE

Sample:

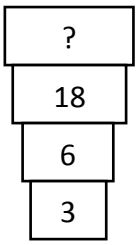
24	120	216
6	30	54
2	10	18
1	5	9

Study the samples above and use them to answer questions 1 to 3.

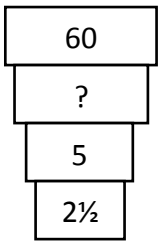
Hint: Multiply by Im2, 3, 4

1. 

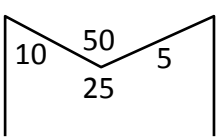
(a) 4
(b) 3
(c) 3½
(d) 2½
(e) 1

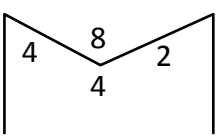
2. 

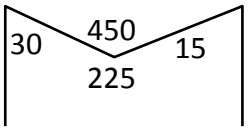
(a) 90
(b) 72
(c) 48
(d) 36
(e) 20

3. 

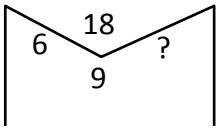
(a) 10
(b) 15
(c) 20
(d) 30
(e) 40

Samples: 

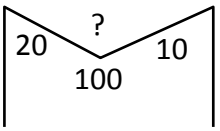




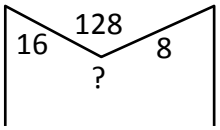
Study the above samples and use them to answer questions 4 to 7. Hint: 10 x 5 = 50 | $^{50}/_{Im2}$ = 25

4. 

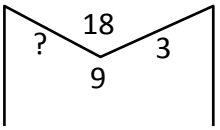
(a) 81 (b) 24 (c) 18 (d) 15 (e) 3

5. 

(a) 5 (b) 30 (c) 50 (d) 200 (e) 400

6. 

(a) 4 (b) 24 (c) 46 (d) 64 (e) 136

7. 

(a) 3 (b) 6 (c) 27 (d) 54 (e) 162

Samples: $16 \wedge 4 = 20$

$8 \text{ v } 2 = 6$

$\frac{14 \wedge 2}{14 \text{ v } 6} = \frac{16}{18} = 2$

Study the above samples and use them to answer questions 11 to 13.

Hint: 16 + 4 = 20 | 8 – 2 = 6

8. $7 \wedge 2 \text{ v } 9 =$ (a) 28 (b) 18 (c) 14 (d) 4 (e) 0

9. $(16 \wedge 8) \wedge (13 \text{ v } 3) =$ (a) 10 (b) 14 (c) 24 (d) 34 (e) 57

10. $\frac{11 \text{ v } 5}{9 \wedge 3} =$ (a) 3 (b) 2 (c) $^4/_3$ (d) 1 (e) ½

Samples: $D_1 = 1 = 1$, $D_2 = 2 \times 1 = 2$, $D_3 = 3 \times 2 \times 1 = 6$

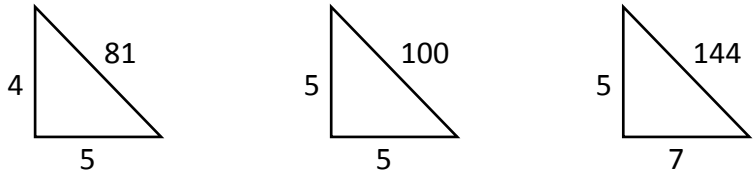
Study the above samples and use them to answer questions 11 to 13.

11. D_4 = ___ (a) 6 (b) 8 (c) 12 (d) 16 (e) 24

12. $D_4 + D_3 + D_1$ = (a) 8 (b) 9 (c) 20 (d) 21 (e) 72

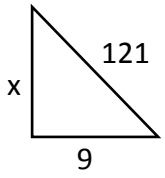
13. $\frac{D_3}{D_4} \times D_2$ = ___ (a) 2 (b) 1 (c) ½ (d) $^1/_3$ (e) ¼

Sample:

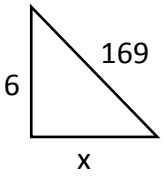


Use the above sample to answer questions 14 to 16. (**Hint:** $(4 + 5)^2 = 81$

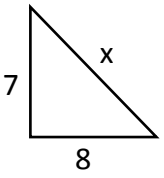
14. (a) 2 (b) 3 (c) 4 (d) 5 (e) 6



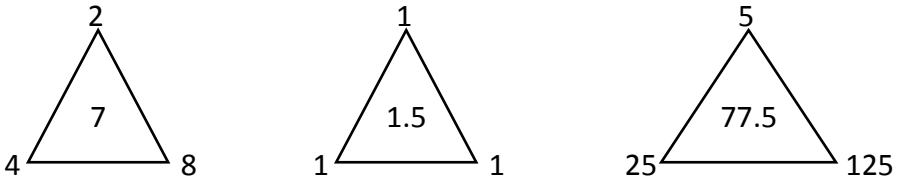
15. (a) 7 (b) 8 (c) 9 (d) 10 (e) 11



16. (a) 49 (b) 64 (c) 113 (d) 125 (e) 225

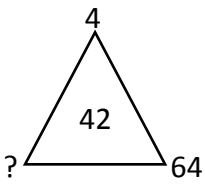


Sample:



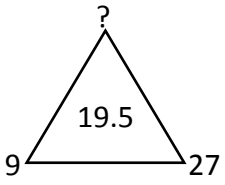
Use the sample above to answer questions 17 to 20. (**Hint:** $\frac{2 + 4 + 8}{\text{Im}2} = 7$)

17.



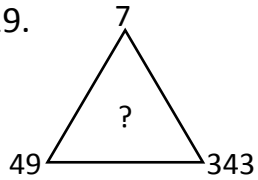
(a) 110 (b) 84 (c) 16 (d) 8 (e) $6^2/_{21}$

18.



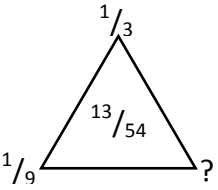
(a) 3.0 (b) 6.5 (c) 16.5 (d) 55.5 (e) 81.0

19.



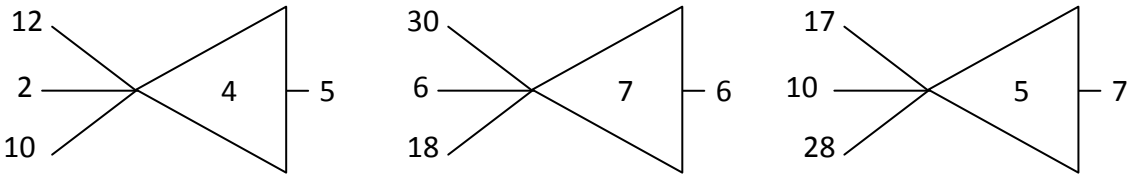
(a) 143.5 (b) 199.5 (c) 287.0 (d) 399.0 (e) 2401.0

20.



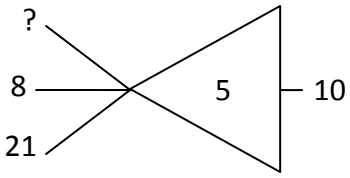
(a) $^2/_3$ (b) $^{13}/_{27}$ (c) $^{13}/_{81}$ (d) $^1/_{27}$ (e) $^1/_{81}$

Samples:

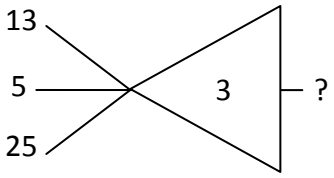


Find the relationship in the samples above and use it to answer questions 21 to 24.

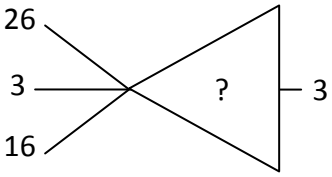
(**Hint:** 12 – 2 + 10 = 4 x 5)

21. 

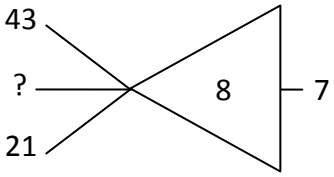
(b) 37 (b) 44 (c)63 (d) 79 (e) 87

22. 

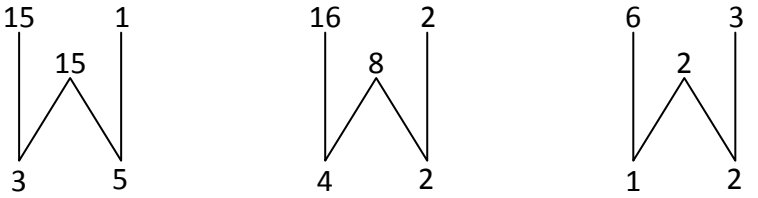
(a) 5 (b) 7 (c) 11 (d) 14 (e) 20

23. 

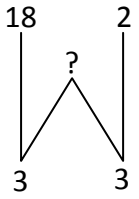
(a) 4 (b) 10 (c) 11 (d) 13 (e) 16

24. 

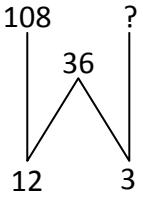
(a) 7 (b) 8 (c) 15 (d) 23 (e)

Samples: 

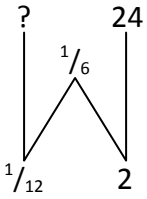
Study the above samples and use them to answer questions 25 to 28.
Hint: 15 ÷ 1 = 15 | 3 x 5 = 15

25. 

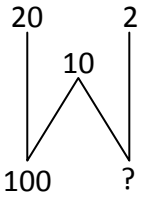
(a) 5 (b) 6 (c) 9 (d) 36 (e) 64

26. 

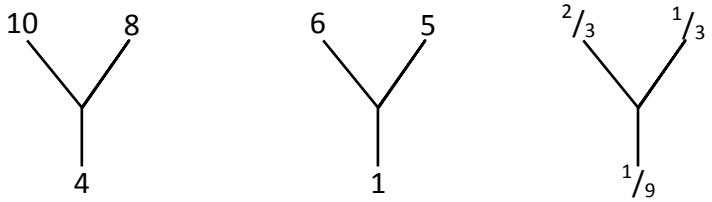
(a) 3 (b) 4 (c) 6 (d) 15 (e) 21

27. 

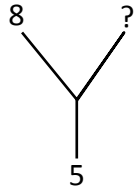
(a) $^1/_6$ (b) $^1/_3$ (c) ½ (d) 4 (e) 12

28. 

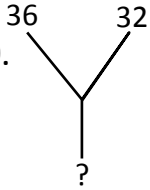
(a) 10 (b) 50 (c) 4 (d) ¼ (e) $^1/_{10}$

Samples: 

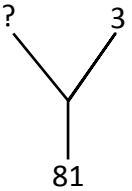
Find the relationship and use it to answer questions 29 to 31. [**Hint:** $(10 - 8)^2 = 4$]

29. 

(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

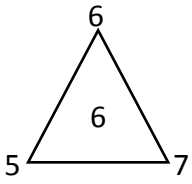
30. 

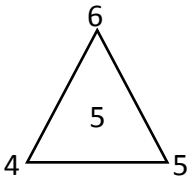
(a) 4
(b) 8
(c) 16
(d) 22
(e) 24

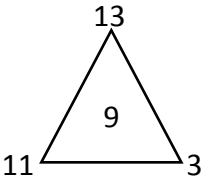
31. 

(a) 5
(b) 6
(c) 7
(d) 9
(e) 12

Sample:

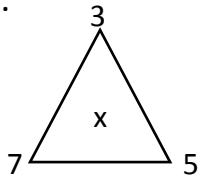






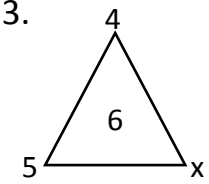
Use the sample above to answer questions 32 to 34. (**Hint:** $\frac{6 + 7 + 5}{\text{Im3}} = 6$)

32.



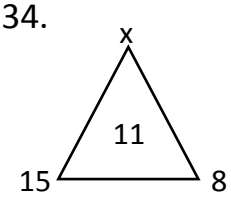
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

33.



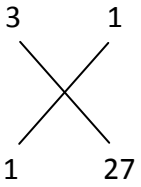
(a) 7
(b) 8
(c) 9
(d) 10
(e) 11

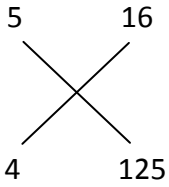
34.



(a) 9
(b) 10
(c) 11
(d) 12
(e) 13

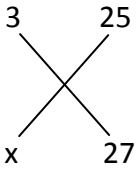
Sample:





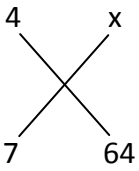
Find the relationship and use it to answer questions 35 to 37. **Hint:** $2^3 = 8$ | $3^2 = 9$

35.



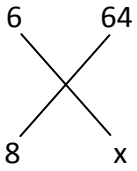
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

36.



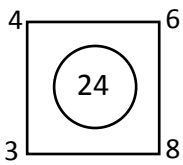
(a) 14
(b) 21
(c) 35
(d) 49
(e) 56

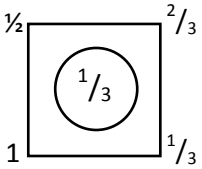
37.

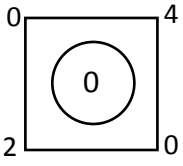


(a) 12
(b) 24
(c) 36
(d) 72
(e) 216

Samples:



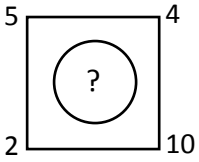




Study the above samples and use them to answer questions 38 to 40.

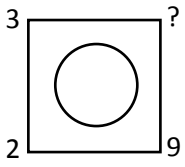
Hint: 4 x 6 = 24 | 3 x 8 = 24

38.



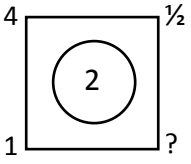
(a) 9 (b) 10 (c) 12 (d) 20 (e) 40

39.



(a) 5 (b) 6 (c) 7 (d) 9 (e) 11

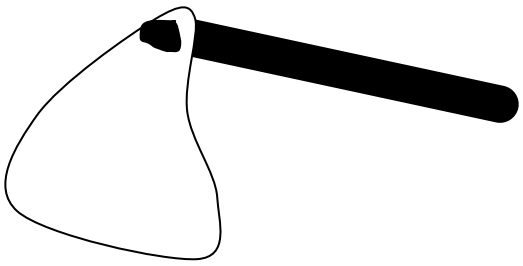
40.



(a) 1 (b) 2 (c) 5 (d) 6 (e) 8

VOCATIONAL APTITUDE

41. The person who competes in a sport is a/an ____ (a) athlete (b) boxer (c) footballer (d) runner (e) swimmer
42. The library is to the librarian as the museum is to the ____ (a) chemist (b) curator (c) doctor (d) gardener (e) physicist
43. Petrol is to car as _____ is to cell-phone. (a) battery (b) credit card (c) kerosene (d) recharge card (e) teller machine
44. A person with eye defect uses a/an (a) eye glasses (b) eye pencil (c) eye shadow (d) face cleaner (e) face powder
45. A canoe is to river as a/an ____ is to desert. (a) bicycle (b) camel (c) cart (d) cow (e) motorcycle
46. A lorry is to road as a train is to a/an (a) air (b) cable line (c) rail (d) runway (e) water
47. A plane is to a pilot as a horse is to (a) cyclist (b) driver (c) pilot (d) rider (e) sailor
48. The tool shown below is called a/an (a) axe (b) cutlass (c) hoe (d) machete (e) shovel



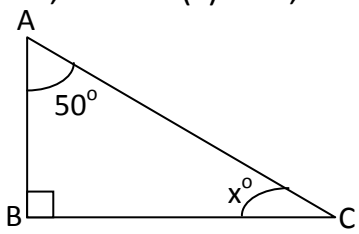
49. Which of the following does not break when it falls? (a) calabash (b) ceramic plate (c) clay pot (d) glass cup (e) rubber cup
50. Which of the following agricultural produce contains protein in high quantity? (a) beans (b) maize (c) millet (d) palm oil (e) rice

NATIONAL COMMON ENTRANCE EXAMINATION 2011

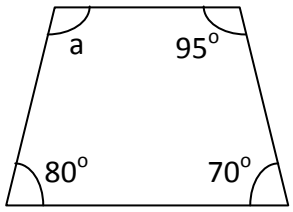
MATHEMATICS

1. Express XLIX in Arabic numerals. (a) 511 (b) 490 (c) 460 (d) 49 (e) 46
2. Write in figure: twenty five thousand and five. (a) 25,505 (b) 25,500 (c) 25,050 (d) 25,005 (e) 25,000
3. What is the place value of 2 in 204.14? (a) hundreds (b) tens (c) tenth (d) hundredth (e) thousandth
4. Find the LCM of 12, 18 and 24 (a) 108 (b) 72 (c) 54 (d) 36 (e) 6
5. Arrange the following fractions in descending order: $^{7}/_{12}$; $^{2}/_{3}$; ¾; $^{5}/_{8}$. (a) ¾; $^{2}/_{3}$; $^{5}/_{8}$; $^{7}/_{12}$ (b) $^{7}/_{12}$; ¾; $^{2}/_{3}$; $^{5}/_{8}$ (c) $^{7}/_{12}$; $^{5}/_{8}$; $^{2}/_{3}$; ¾ (d) $^{7}/_{12}$; $^{5}/_{8}$; ¾; $^{2}/_{3}$ (e) $^{2}/_{3}$; ¾; $^{5}/_{8}$; $^{7}/_{12}$
6. Find the sum of the square of 9 and the square root of 9. (a) 6 (b) 9 (c) 81 (d) 84 (e) 99
7. What is the square of $2\pi\sqrt{a}$? (a) $2\pi a$ (b) $2\pi a^2$ (c) $2\pi^2 a$ (d) $4\pi^2 a$ (e) $4\pi^2 a^2$
8. Express N30.00 as a percentage of N60.00 (a) 60% (b) 50% (c) 40% (d) 30% (e) 20%
9. Which of the following numbers is NOT a perfect square? (a) 200 (b) 144 (c) 121 (d) 25 (e) 9
10. Two-third of a number is 10. What is the number? (a) 30 (b) 25 (c) 20 (d) 15 (e) 10
11. Find the simple interest on N600.00 for 5 years at 9% per annum. (a) N970.00 (b) N920.00 (c) N720.00 (d) N520.00 (e) N270.00
12. Mary bought a bag of rice for N9,000.00 and sold it for N6,300.00. What was her percentage loss? (a) 60% (b) 50% (c) 40% (d) 30% (e) 20%
13. The ration of boys to girls in a class of 45 pupils is 2 : 7. How many girls are there in the class? (a) 35 (b) 20 (c) 18 (d) 15 (e) 10
14. Nana is m years old. How old was she ten years ago? (a) (10 – m)years (b) (m – 10)years (c) $^{10}/_{m}$ years (d) 10m years (e) m^2 years
15. Find the cost of 80 oranges at 5 for 30 naira. (a) N2,400.00 (b) N480.00 (c) N400.00 (d) N150.00 (e) N48.00
16. If 35% of a number is 70, find the number. (a) 20 (b) 35 (c) 105 (d) 200 (e) 2,450

17. How many degrees will the hour hand of a wall clock move from 6.00p.m to 3.00a.m? (a) 30^o (b) 90^o (c) 150^o (d) 180^o (e) 270^o
18. Find the value of x in: 2(x + 1) = 4. (a) 3 (b) 2½ (c) 1 (d) -1 (e) -3
19. If 6y = 36. What is the value of $\frac{y^2}{2}$? (a) 6 (b) 9 (c) 18 (d) 36 (e) 72
20. What is the value of x in the equation $^{36}/_{X} = {}^{6}/_{5}$? (a) 6 (b) 30 (c) 36 (d) 90 (e) 180
21. For how long did Eze travel 10km at the speed of 20km/hr? (a) 60 min. (b) 30 min. (c) 15 min. (d) 10 min. (e) 2 min.
22. A labourer is paid N1,000.00 for 5 days work. What is his pay for 22 days work? (a) N5,022.00 (b) N5,000.00 (c) N4,400.00 (d) N1,100.00 (e) N1,022.00
23. Mohammed's watch is 15 minutes late. A radio announcer says "The time is 12 noon". What time does Mohammed's watch show? (a) 11:45p.m (b) 11:45a.m (c) 12:00p.m (d) 12:15a.m (e) 12:15pm
24. A stylist is paid N5,400.00 per month. What is her total salary in 1½ years? (a) N97,200.00 (b) N91,800.00 (c) N64,800.00 (d) N450.00 (e) N300.00

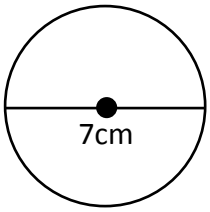


25. What is the value of angle x in the above diagram? (a) 20 (b) 40 (c) 100 (d) 120 (e) 180
26. Calculate the size of the angle marked 'a' in the figure below. (a) 85^o (b) 90^o (c) 95^o (d) 115^o (e) 245^o

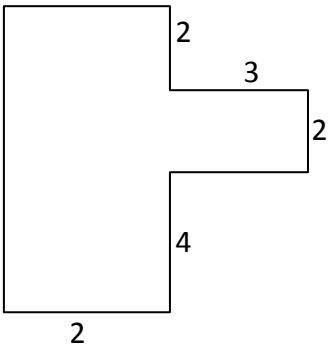


27. What is the mode of the scores: 1, 1, 3, 3, 3, 5, 4, 4, 2, 2, 2, 2? (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
28. What is the median of the scores: 5, 2, 1, 4, 4, 0, 4 and 6? (a) 6 (b) 5 (c) 4 (d) 2 (e) 1
29. Find the average of 40, 49, 61, 47 and 33. (a) 33 (b) 42 (c) 46 (d) 47 (e) 230

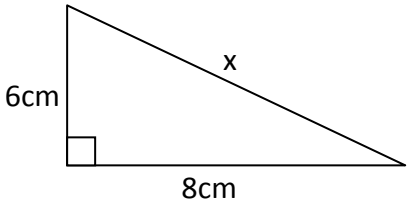
30. Find the area of the circle below. (Take $\pi = {}^{22}/_{7}$). (a) 77.0cm (b) 47.5cm (c) 38.5cm (d) 11.0cm (e) 7.0cm



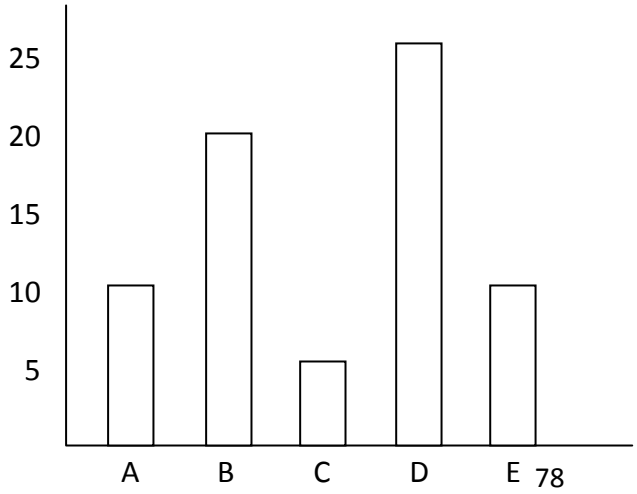
31. A, B and C are three houses in this order along a street in Lagos. The distance from A to B is 120m and the distance from B to C is two-third that of A to B. what is the distance between A and C? (a) 360m (b) 240m (c) 200m (d) 80m (e) 40m



32. Find the perimeter of the figure above. (a) 13 (b) 20 (c) 22 (d) 23 (d) 26
33. Find the length of the side marked x in the diagram below. (a) 2cm (b) 10cm (c) 14cm (d) 24cm (e) 48cm



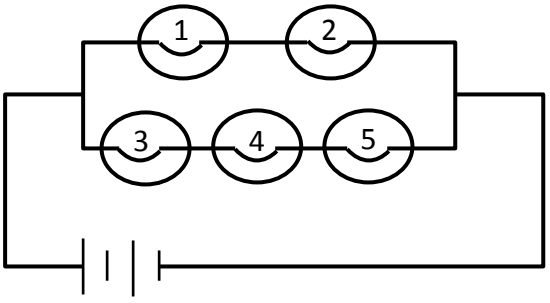
The scores obtained by 5 schools in a competition are represented below. Use the information to answer questions 34 to 37.



34. What is the total scores for all the schools? (a) 5 (b) 10 (c) 25 (d) 60 (e) 70
35. If pass park is 10, how many school(s) failed? (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
36. Which is the best school? (a) E (b) D (c) C (d) B (e) A
37. Which schools have the same scores? (a) A and C (b) B and C (c) C and E (d) A and E (e) B and D
38. What must be added to 112.6 to make 172.40? (a) 284.46 (b) 255.00 (c) 60.34 (d) 60.00 (e) 59.80
39. Approximate 1999 to 2 significant figures. (a) 19 (b) 20 (c) 190 (d) 200 (e) 2000
40. Simplify $5^{2}/_{3}$ x ¾ + ½ (a) 4¼ (b) 4¾ (c) 6 ½ (d) 7¼ (e) 7¾

GENERAL SCIENCE

41. We eat carbohydrate food to give us _____ (a) energy (b) good sight (c) good teeth (d) long life (e) strong bones
42. Which of these CANNOT conduct electricity? (a) carbon rods (b) coins (c) human body (d) plastic (e) water
43. Which of the following will sink when placed on water? (a) ball (b) balloon (c) eraser (d) feather (e) plastic cup
44. The crude form in which minerals are obtained is called ____ (a) coal (b) limestone (c) metal (d) ore (e) steel
45. Which of the following food items is a source of vitamin? (a) cassava (b) meat (c) oil (d) orange (e) yam
46. The following are domestic birds EXCEPT ___ (a) chicken (b) duck (c) pigeon (d) turkey (e) vulture
47. The diagram below shows the arrangement of five bulbs in a circuit.



Which of the bulbs will light if bulb No. 4 is burnt? (a) 1 only (b) 1 and 2 only (c) 3 and 5 only (d) 2, 3, and 5 only (e) 1, 2, 3 and 5

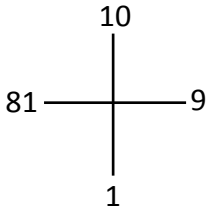
48. Which of the following organs is responsible for respiration? (a) heart (b) kidney (c) liver (d) lung (e) ear

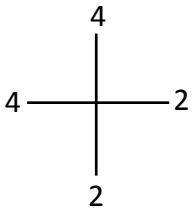
49. Caustic soda is known as ___ (a) calcium hydroxide (b) potassium hydroxide (c) potassium oxide (d) sodium hydroxide (e) sodium oxide

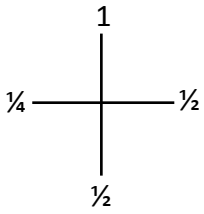
50. Which of the following is NOT correct about heat energy? It can cause a/an ___ (a) change in colour of a substance (b) change in state of a substance (c) expansion in a substance (d) rise in temperature of a substance (e) substance to float.

QUANTITATIVE APTITUDE

Samples:

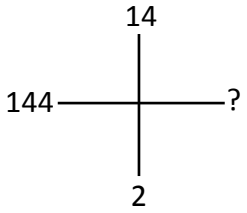






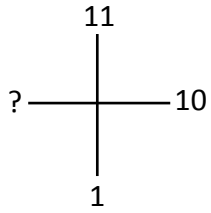
Study the above samples and use them to answer questions 1 to 4. [Hint: $9^2 = 81$ | 9 + 1 = 10]

1.



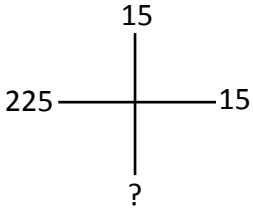
(a) 12
(b) 14
(c) 16
(d) 18
(e) 20

2.



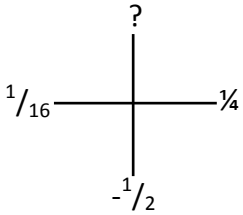
(a) 121
(b) 115
(c) 100
(d) 75
(e) 30

3.



(a) – 1
(b) 0
(c) 1
(d) 2
(e) 3

4.



(a) ½
(b) ¼
(c) 0
(d) – ½
(e) – ¼

Samples: $10 \rightarrow 2 = 20$, $45 \leftarrow 3 = 15$, $7 \rightarrow 2 \leftarrow 7 = 2$

Study the above samples and use them to answer questions 5 to 8. [Hint: 10 x 2 = 20 | 45 ÷ 3 = 15]

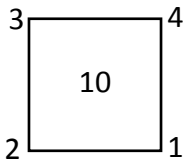
5. $2 \rightarrow 7$ (a) 95.0 (b) 84.0 (c) 19.0 (d) 5.0 (e) 1.7

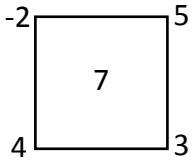
6. $185 \leftarrow 5$ (a) 925 (b) 190 (c) 180 (d) 37 (e) 10

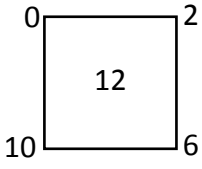
7. $8 \rightarrow 3 \leftarrow 6$ (a) 144 (b) 30 (c) 24 (d) 11 (e) 4

9. $\underline{4 \rightarrow 2}$
$2 \leftarrow 2$ (a) 16 (b) 8 (c) 4 (d) 1½ (e) ½

Samples:

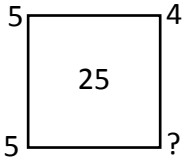




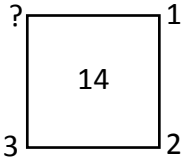


Study the above samples and use them to answer questions 13 to 16.

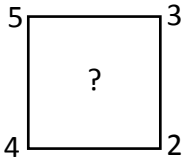
[Hint: 3 x 2 + 4 x 1 10]

13. 

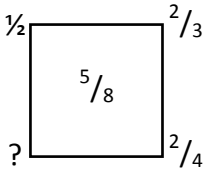
(a) 100
(b) 50
(c) 5
(d) 1
(e) 0

14. 

(a) 20
(b) 8
(c) 6
(d) 4
(e) 2

15. 

(a) 1
(b) 12
(c) 14
(d) 22
(e) 26

16. 

(a) 1
(b) ½
(c) ¼
(d) $^1/_8$
(e) $^1/_{24}$

Samples: 20 v 5 = 25 $\quad$ 20 $\wedge$ 5 = 4

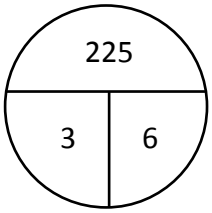
Study the above samples and use them to answer questions 19 to 19.

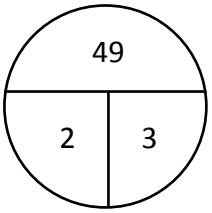
17. $\underline{50 \text{ v } 20}$
$30 \wedge 3$ $\quad$ (a) 90 (b) 70 (c) 30 (d) 10 (e) 7

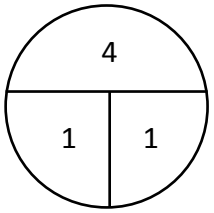
18. $(19 \text{ v } 8) \wedge 3$ $\quad$ (a) 35 (b) 30 (c) 14 (d) 9 (e) 8

19. $(72 \text{ v } 28) \wedge (26 \text{ v } 24)$ $\quad$ (a) 2 (b) 4 (c) 25 (d) 150 (e) 200

Samples:

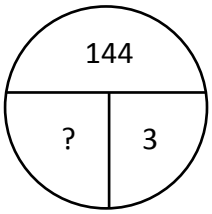




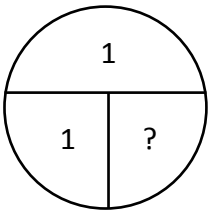


Study the above samples and use them to answer questions 20 to 23.

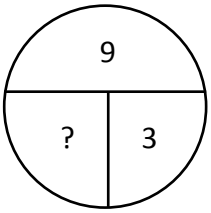
Hint: $(3^2 + 6)^2 = 225$

20. 

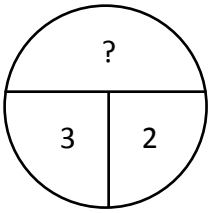
(a) 3
(b) 9
(c) 48
(d) 141
(e) 432

21. 

(a) 0
(b) 1
(c) 2
(d) 4
(e) 8

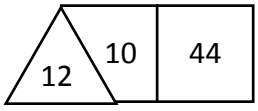
22. 

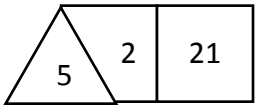
(a) 6
(b) 3
(c) 2
(d) 1
(e) 0

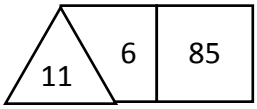
23. 

(a) 5
(b) 6
(c) 25
(d) 36
(e) 121

Samples:



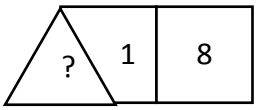




Study the above samples and use them to answer questions 24 to 27.

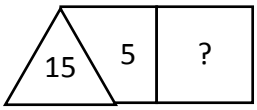
Hint: 12 – 10 x (12 + 10) = 44

24.



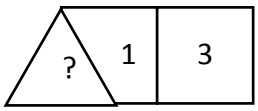
(a) 9
(b) 7
(c) 3
(d) 2
(e) 1

25.



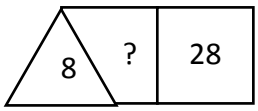
(a) 10
(b) 20
(c) 25
(d) 75
(e) 200

26.



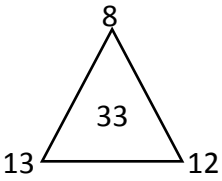
(a) 1
(b) 2
(c) 4
(d) 9
(e) 16

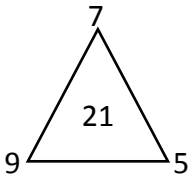
27.

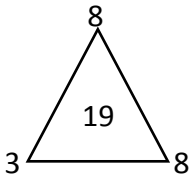


(a) 6
(b) 20
(c) 36
(d) 64
(e) 224

Sample:

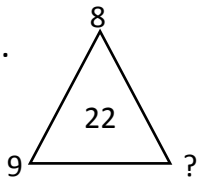






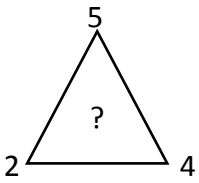
Use the sample above to answer questions 28 to 30. [Hint: 8 + 13 + 12 = 33]

28.



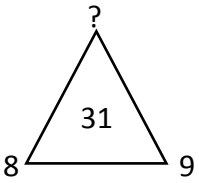
(a) 5
(b) 13
(c) 17
(d) 30
(e) 39

29.



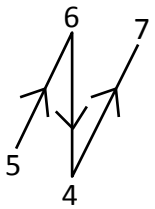
(a) 11
(b) 9
(c) 7
(d) 3
(e) 1

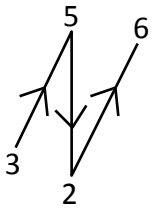
30.

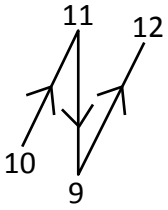


(a) 48
(b) 40
(c) 22
(d) 14
(e) 1

Samples:



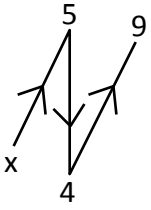




Study the above samples and use them to answer questions 31 to 33.

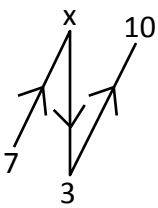
[Hint: 5 + 6 – 4 =7]

31.



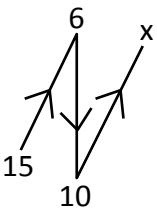
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

32.



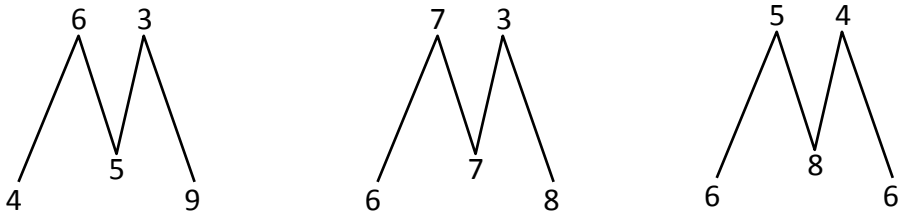
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

33.



(a) 8
(b) 9
(c) 10
(d) 11
(e) 12

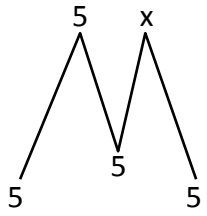
Samples:



Study the above samples and use them to answer questions 34 to 36.

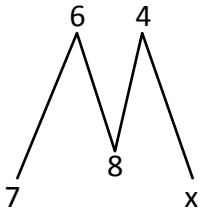
[Hint: 6 x 3 = 4 + 5 + 9]

34.



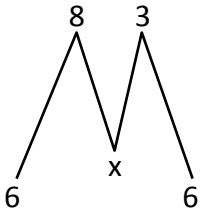
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

35.



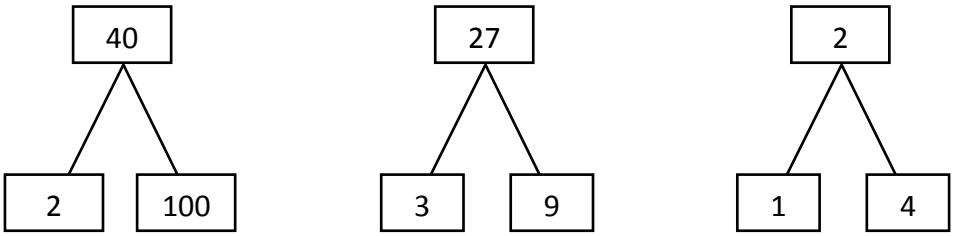
(a) 5
(b) 6
(c) 7
(d) 8
(e) 9

36.



(a) 9
(b) 10
(c) 11
(d) 12
(e) 13

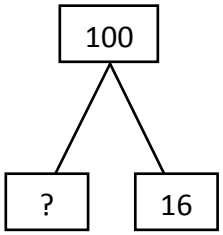
Samples:



Study the above samples and use them to answer questions 37 to 40.

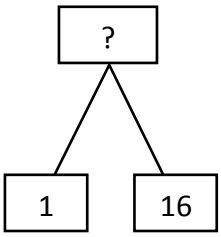
[Hint: 3^2 x $\sqrt{9}$ =27]

37.



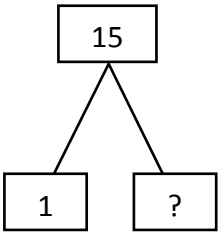
(a) 5
(b) 10
(c) 25
(d) 84
(e) 116

38.



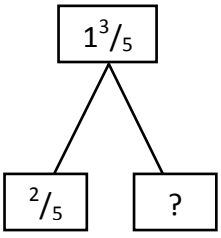
(a) 10
(b) 9
(c) 8
(d) 3
(e) 1

39.



(a) 15
(b) 48
(c) 135
(d) 175
(e) 225

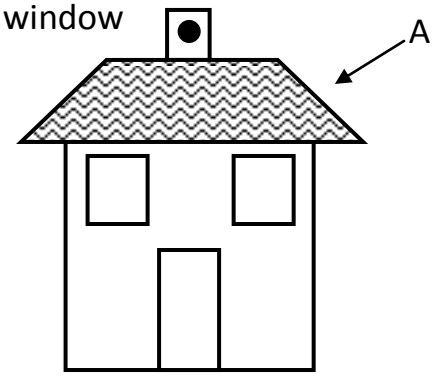
40.



(a) $^{32}/_{125}$
(b) $6^2/_5$
(c) 40
(d) 50
(e) 100

VOCATIONAL

41. The part labeled “A” in the diagram below is _____ (a) chimney (b) door (c) roof (d) veranda (e) window



42. The person who produces drugs is a ____ (a) curator (b) doctor (c) librarian (d) pharmacist (e) physicist
43. Which of the following is made from wood? (a) biro (b) key (c) paper (d) pot (e) toothbrush
44. A device used in sending and receiving text messages is ____ (a) cell phone (b) DVD (c) radio (d) tape recorder (e) television
45. Hammer is to carpenter as hook is to the _____ (a) farmer (b) fisherman (c) mechanic (d) tailor (e) teacher
46. A person that treats teeth is called a/an ____ (a) dentist (b) optician (c) physician (d) physiologist (e) radiologist
47. Hoe is to a farmer as scissors is to a ____ (a) carpenter (b) driver (c) plumber (d) potter (e) tailor
48. In ancient days, messages were sent round village by ____ (a) cell phones (b) journalists (c) praise singers (d) radios (e) town criers
49. Which part of the human body is used for breathing and smelling? (a) ear (b) eye (c) mouth (d) nose (e) tongue
50. A modern farmer used a ____ to plough a large piece of land. (a) bulldozer (b) cart (c) cow (d) hoe (e) tractor

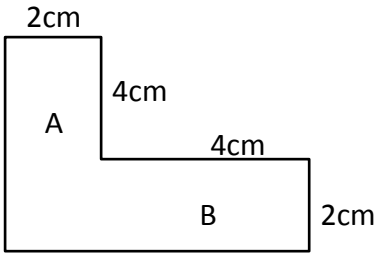
NATIONAL COMMON ENTRANCE EXAMINATION 2012

MATHEMATICS

1. The roman numeral MCDIV represents (a) 1,004 (b) 1,404 (c) 1,406 (d) 1,605 (e) 1,606
2. Correct 33,246 to 2 significant figures. (a) 33,300 (b) 33,250 (c) 33,240 (d) 33,200 (e) 33,000
3. Write 56,001 in words. (a) five hundred and six thousand and one (b) fifty six thousand and one (c) fifty thousand, one hundred and one (d) five thousand, six hundred and one (e) five thousand, one hundred and one
4. Simplify $4^1/_2 - 3^1/_3$ (a) $^3/_5$ (b) $^6/_7$ (c) $1^1/_6$ (d) $1^5/_6$ (e) $2^3/_4$
5. Express 6/24 as a decimal fraction (a) 0.24 (b) 0.024 (c) 0.0024 (d) 0.00204 (e) 0.002004
6. Round off 3,455 to the nearest hundred. (a) 3,500 (b) 3,460 (c) 3,450 (d) 3,400 (e) 3,000
7. List all the prime factors of 12. (a) 1, 2 (b) 1, 2, 3 (c) 1, 2, 3, 13 (e) 2, 3 (e) 2, 3, 6
8. What is the sum of 33,170; 809; 1090 and 10,930? (a) 46,000 (b) 45,999 (c) 44,999 (d) 44,000 (e) 43,999
9. What is the place value of 3 in 204.34? (a) hundredth (b) tenths (c) tens (d) thousandths (e) units
10. What is the difference between 500 and (30 x 9)? (a) 770 (b) 500 (c) 270 (d) 250 (e) 230
11. Find the LCM of 12, 15 and 18 (a) 180 (b) 160 (c) 36 (d) 12 (e) 6
12. Find the sum of 0.073, 6.3 and 2.12 (a) 10.500 (b) 8.493 (c) 7.330 (d) 5.421 (e) 3.480
13. How many degrees will the hour hand of a wall clock move from 9pm to 3am? (a) 45^o (b) 60^o (c) 90^o (d) 180^o (e) 270^o
14. A line that divides a circle into two equal parts is called a (a) chord (b) diameter (c) radius (d) segment (e) semi-circle
15. The area of the floor of a room is $169cm^2$. Calculate its length given that it is a square floor. (a) 13cm (b) 25cm (c) 52cm (d) 26cm (e) 169cm

16. A triangle in which two sides are equal is called a/an (a) equilateral triangle (b) isosceles triangle (c) obtuse-angled triangle (d) right angled triangle (e) scalene triangle

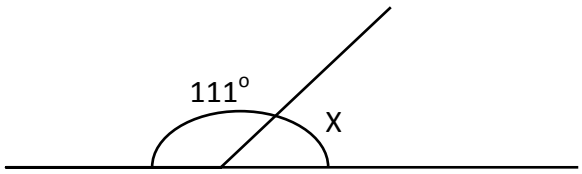
17. A football field is 120m long and 65m wide. Find its perimeter. (a) 110m (b) 185m (c) 370m (d) 480m (e) 7800m

18. 

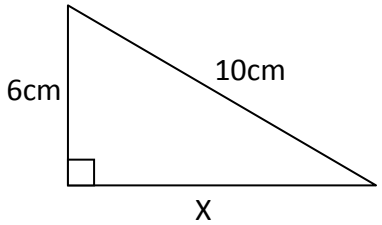
Find the area of the above figure. (a) $16cm^2$ (b) $20cm^2$ (c) $24cm^2$ (d) $30cm^2$ (e) $36cm^2$

19. Calculate the area of a circle whose Radius is 7cm. ($\pi = {}^{22}/_{7}$) (a) $44cm^2$ (b) $49cm^2$ (c) $88cm^2$ (d) $154cm^2$ (e) $308cm^2$

20. Find the value of x in the diagram below. (a) 21^o (b) 69^o (c) 111^o (d) 114^o (e) 249^o

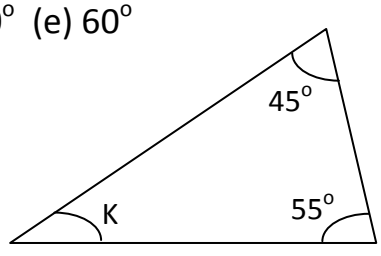


21. What is the value of x in the diagram below? (a) 2cm (b) 4cm (c) 7cm (d) 8cm (e) 16cm



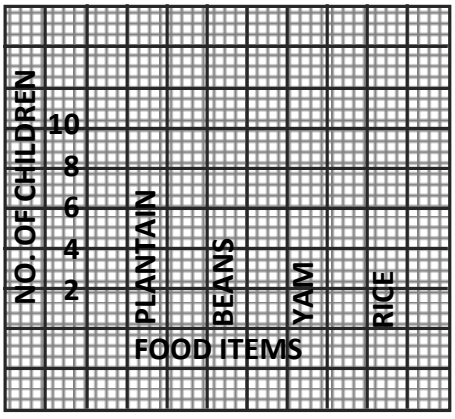
22. Calculate the area of a circle whose radius is 14cm. ($\pi = {}^{22}/_{7}$). (a) 44cm (b) 88cm (c) 154cm (d) 616cm (e) 1232cm

23. Find the value of the angle marked k in the triangle below. (a) 150^o (b) 120^o (c) 100^o (d) 80^o (e) 60^o



24. The three angles of a triangle are in the ratio 3:4:11. Calculate the size of the least angle. (a) 30^o (b) 40^o (c) 60^o (d) 70^o (e) 110^o
25. Simplify (25a + 9d) – (10a – 5d) (a) 35a + 14d (b) 15a + 14d (c) 35a – 4d (d) 35a + 4d (e) 15a – 4d
26. Find the value of x if $^6/_x = ½$ (a) 2 (b) 3 (c) 6 (d) 8 (e) 12
27. If $^2/_3$ of a number is 25. What is the number? (a) 12.5 (b) 16.7 (c) 25.0 (d) 37.5 (e) 75.0
28. The age of a father is 3 times his daughter's. If the daughter's age is 10 years, find the age of her father. (a) 10 years (b) 13 years (c) 30 years (d) 40 years (e) 60 years
29. If a = 5, b = -2 and c = 3, find the value of ab – c. (a) -13 (b) -10 (c) -7 (d) 10 (e) 13
30. Find the cost of 20 oranges if 100 oranges cost N200.00 (a) N20.00 (b) N30.00 (c) N40.00 (d) N160.00 (e) N200.00
31. If a = c + 7 and b =5, find a + b. (a) c + 12 (b) c + 7 (c) c + 5 (d) c – 7 (e) c – 12
32. Find the value of y if $^2/_y + 4 = 8$ (a) $^1/_6$ (b) ½ (c) 2 (d) 4 (e) 6
33. Solve for x if 2(1 + 3x) = 14. (a) 2 (b) $2^2/_3$ (c) 3 (d) $5^2/_3$ (e) $5^2/_3$
34. Ese is twelve years old. How old was she 8 years ago? (a) 20 years (b) 12 years (c) 10 years (d) 8 years (e) 4 years
35. Find the average of the following set of numbers: 13, 7, 0, 4, 9, 9. (a) 7.0 (b) 8.4 (c) 9.0 (d) 21.0 (e) 42.0

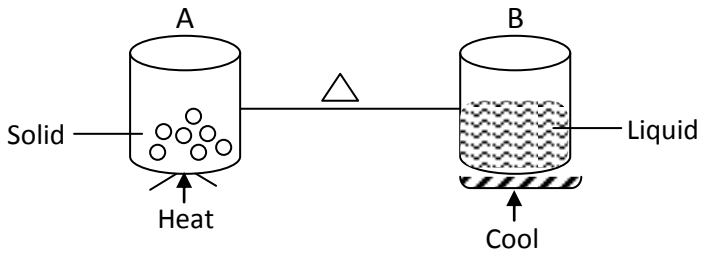
The graph below shows the survey of number of children that like a particular kind of food. Use it to answer questions 36 to 39.



36. How many children do not like beans? (a) 6 (b) 8 (c) 10 (d) 20 (e) 28

37. Which of these food is liked by four children? (a) beans (b) plantain (c) rice (d) yam (e) yam and beans
38. How many children like plantain? (a) 2 (b) 4 (c) 6 (d) 8 (e) 10
39. How many children are involved in the survey? (a) 6 (b) 8 (c) 10 (d) 28 (e) 30
40. The MOST frequently occurring number in a set of numbers is called (a) average (b) frequency (c) mean (d) median (e) mode

GENERAL SCIENCE

41. High joint is found at the (a) chest (b) elbow (c) hip (d) neck (e) shoulder
42. Which of the following is a magnetic material? (a) coin (b) paper (c) plastic (d) string (e) wood
43. the removal of waste products from the body of animals is called ___ (a) excretion (b) irritability (c) nutrition (d) reproduction (e) respiration
44. the boiling point of pure water is ____^{o}C (a) 0 (b) 37 (c) 100 (d) 273 (e) 303
45. 

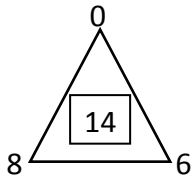
The changes that take place from A to B is (a) boiling (b) condensation (c) freezing (d) melting (e) sublimation

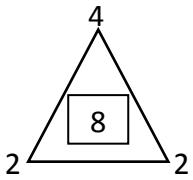
46. Which of the following is NOT a sense organ? (a) ear (b) eye (c) heart (d) skin (e) tongue
47. In science, common salt is also known as (a) copper sulphate (b) hydrogen chloride (c) sodium chloride (d) zinc chloride (e) zinc sulphate
48. The three states of matter are: (a) gas, liquid, vapour (b) gas, solid, atom (c) gas, solid, liquid (d) gas, vapour, solid (e) liquid, gas, atom
49. Which of the following gases is given off during respiration in man? (a) carbon dioxide (b) carbon monoxide (c) hydrogen (d) oxygen (e) sulphur dioxide
50. Which of the following is NOT a simple machine? (a) bicycle (b) hammer (c) opener (d) plier (e) sugar tongs

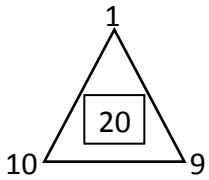
QUANTITATIVE APTITUDE

Instruction: Below are series of problems that are based on quantitative reasoning. Before answering the questions, study the sample that precedes each set and then use it to tackle the problems in that set.

Sample A:

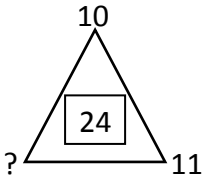






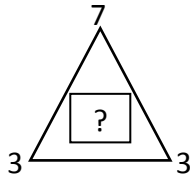
[Hint: 2 + 2 + 4 = 8]

1.



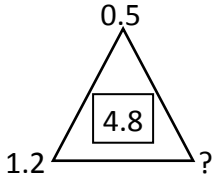
(a) 6 (b) 4 (c) 3 (d) 2 (e) 1

2.



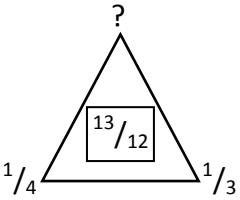
(a) 19 (b) 20 (c) 23 (d) 30 (e) 41

3.



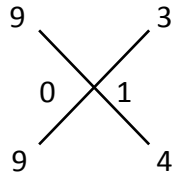
(a) 6.5 (b) 4.3 (c) 3.6 (d) 3.1 (e) 1.7

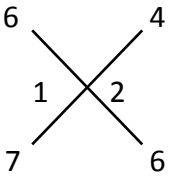
4.

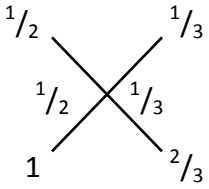


(a) $^{5}/_{4}$ (b) ¾ (c) $^{2}/_{3}$ (d) ½ (e) $^{5}/_{12}$

Sample B:

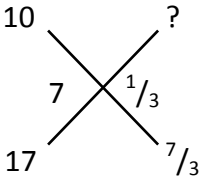






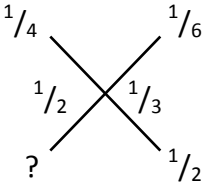
[Hint: 7 – 6 = 1 | 6 – 4 = 2]

5.



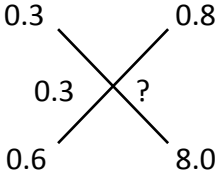
(a) 2 (b) 4 (c) 6 (d) 8 (e) 10

6.



(a) $^{5}/_{4}$ (b) ¾ (c) $^{2}/_{3}$ (d) ½ (e) $^{2}/_{7}$

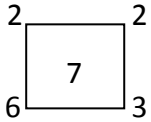
7.

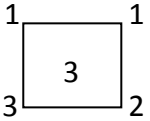


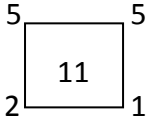
(a) 1.1 (b) 7.2 (c) 7.4 (d) 8.0 (e) 8.8

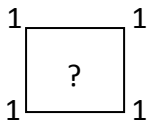
Sample C:

[Hint: 6 + 2 – (3 – 2) = 7]

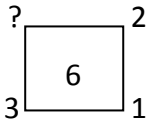




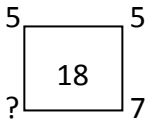


8. 

(a) 0
(b) 1
(c) 2
(d) 4
(e) 5

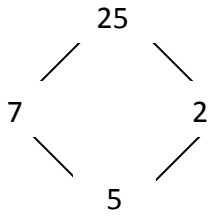
9. 

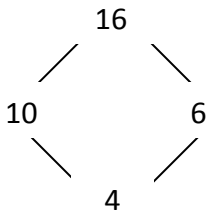
(a) 4
(b) 3
(c) 2
(d) 1
(e) 0

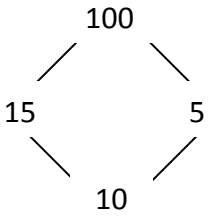
10. 

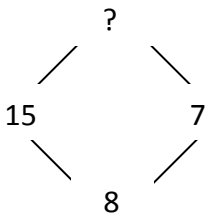
(a) 1
(b) 5
(c) 10
(d) 15
(e) 20

Sample D:

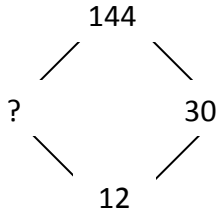




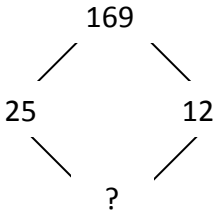


11. 

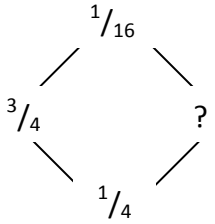
(b) 16 (b) 23 (c) 30 (d) 49 (e) 64

12. 

(a) 12 (b) 18 (c) 42 (d) 102 (e) 186

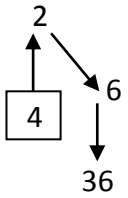
13. 

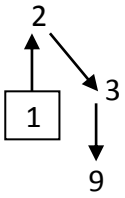
(a) 13 (b) 37 (c) 144 (d) 157 (e) 169

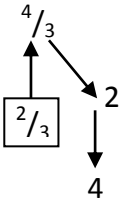
14. 

(a) $^{3}/_{16}$ (b) ¼ (c) ½ (d) ¾ (e) $^{13}/_{16}$

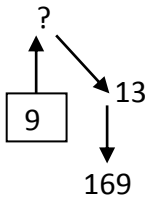
Sample E:



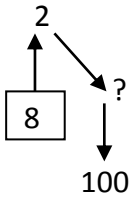




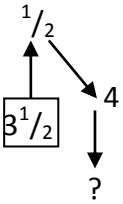
[Hint: 4 + 2 x 6 = 36]

15. 

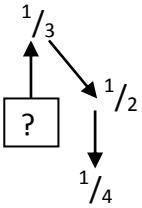
(a) 4 (b) 9 (c) 13 (d) 22 (e) 117

16. 

(a) 2 (b) 6 (c) 10 (d) 16 (e) 100

17. 

(a) 2 (b) 3 (c) 8 (d) 14 (e) 16

18. 

(a) $^{1}/_{8}$ (b) $^{1}/_{6}$ (c) $^{1}/_{3}$ (d) ¾ (e) $^{5}/_{6}$

Sample F: $2 \rightarrow 3 = 6$

$4 \leftarrow 2 = 2$

$\left(\frac{1}{2} \leftarrow \frac{1}{3}\right) \rightarrow 2 = 3$

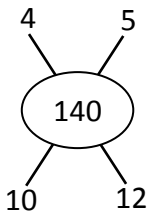
[Hint: 2 x 3 = 6 | 4 ÷ 2 = 2]

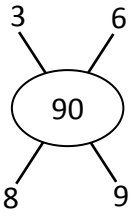
19. $6 \rightarrow ½ = ?$ (a) 12 (b) 8 (c) 3 (d) $1^1/_2$ (e) $^2/_3$

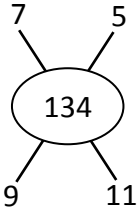
20. $3 \rightarrow ? = 2$ (a) 5 (b) $1^1/_2$ (c) 1 (d) ¾ (e) $^2/_3$

21. $1^1/_2 \leftarrow 5 \rightarrow {}^{10}/_3 = ?$ (a) 5 (b) 3 (c) $1^1/_2$ (d) 1 (e) $^2/_3$

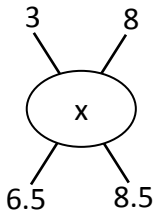
Sample G:



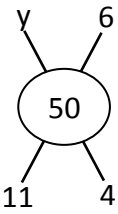




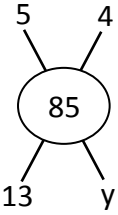
Hint: 4 x 5 + 10 x 12 = 140

22. 

(a) 26.00
(b) 77.30
(c) 79.25
(d) 87.50
(e) 120.00

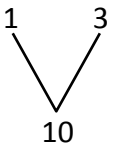
23. 

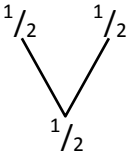
(a) 1
(b) 4
(c) 6
(d) 8
(e) 10

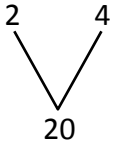
24. 

(a) 3
(b) 5
(c) 10
(d) 13
(e) 15

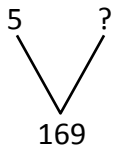
Sample H:



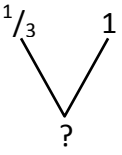




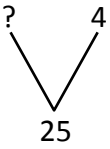
[Hint: $1^2 + 3^2 = 10$]

25. 

(a) 4
(b) 5
(c) 6
(d) 12
(e) 25

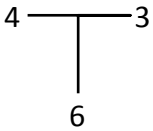
26. 

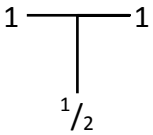
(a) $3^2/_3$
(b) $3^1/_3$
(c) $2^2/_3$
(d) $2^1/_3$
(e) $1^1/_9$

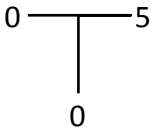
27. 

(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

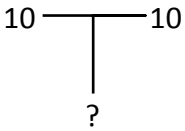
Sample I:



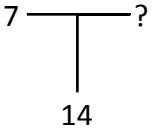




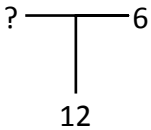
Hint: $\frac{4 \times 2}{\text{Im}2} = 6$

28. 

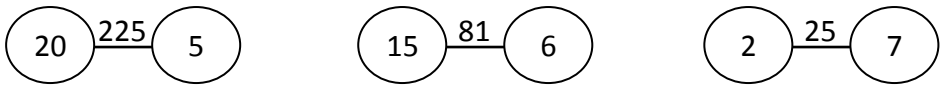
(a) 10
(b) 20
(c) 30
(d) 50
(e) 200

29. 

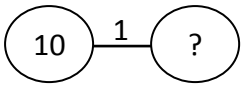
(a) 2
(b) 4
(c) 7
(d) 28
(e) 30

30. 

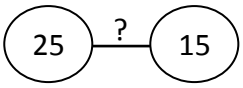
(a) $^1/_4$
(b) 4
(c) 5
(d) 6
(e) 18

Sample J: 

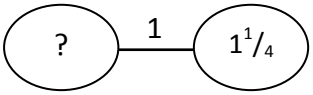
[Hint: $(20 - 5)^2 = 225$]

31. 

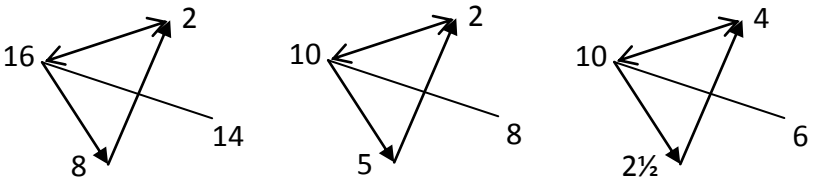
(a) 7 (b) 8 (c) 9 (d) 10 (e) 11

32. 

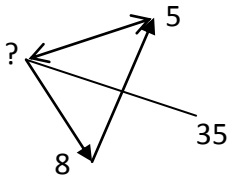
(a) 100 (b) 225 (c) 400 (d) 625 (e) 1225

33. 

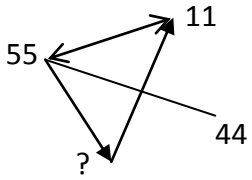
(a) 3 (b) 3 (c) 2 (d) 2 (e) 2

Samples K: 

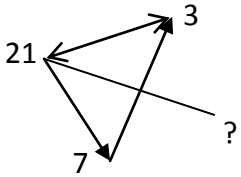
[**Hint:** 8 x 2 = 16 | 16 – 2 = 14]

34. 

(a) 40 (b) 30 (c) 16 (d) 13 (e) 3

35. 

(a) 66 (b) 55 (c) 44 (d) 11 (e) 5

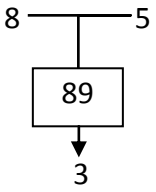
36. 

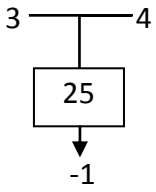
(a) 3 (b) 7 (c) 18 (d) 21 (e) 228

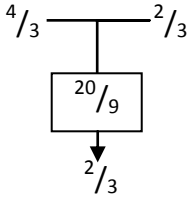
Sample L:

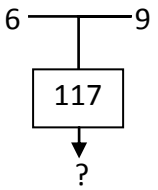
Hint: $8^2 + 5^2 = 89$

$8 - 5 = 3$

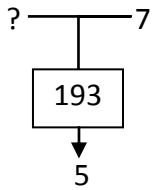




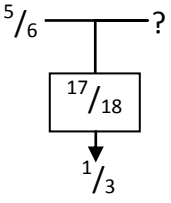


37. 

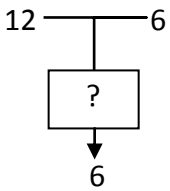
(a) -3
(b) 3
(c) 6
(d) 15
(e) 117

38. 

(a) 2
(b) 5
(c) 7
(d) 12
(e) 193

39. 

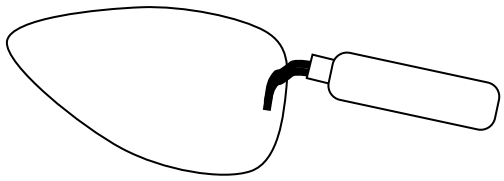
(a) $^1/_3$
(b) ½
(c) $^5/_6$
(d) $^{17}/_{18}$
(e) $^7/_6$

40. 

(a) 6
(b) 12
(c) 18
(d) 144
(e) 180

VOCATIONAL

41. What is the full meaning of CPU in computer science? (a) Central Packaging Unit (b) Central Processing Unit (c) Centrifugal Promotion Unit (d) Computer Processing Unit (e) Control Programming Unit
42. The following professionals work in building industry EXCEPT (a) architect (b) blacksmith (c) bricklayer (d) painter (e) plumber
43. The toll in the diagram below is used by a/an (a) bricklayer (b) electrician (c) mechanic (d) plumber (e) welder



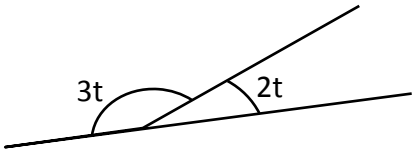
44. Arrows and hoes are produced by a (a) blacksmith (b) bricklayer (c) carpenter (d) drummer (e) hunter
45. Driving is to the car as cycling is to the (a) aeroplane (b) bicycle (c) canoe (d) ship (e) train
46. Punctured tyres of cars and motorcycles are fixed by a/an (a) electrician (b) mechanic (c) panel beater (d) vulcanizer (e) welder
47. Aeroplanes are kept in ____ (a) hanger (b) parking lot (c) seaport (d) silo (e) warehouse
48. A woman who sews dress is called a (a) curator (b) mason (c) sculptor (d) seamstress (e) tiler
49. In Nigeria, the following are major GSM operators EXCEPT (a) Airtel (b) DSTV (c) Etisalat (d) Glo Mobile (e) MTN
50. A hoe is to the farmer as grater is to the (a) cake baker (b) corn grinder (c) garri processor (d) rice miller (e) yam producer

NATIONAL COMMON ENTRANCE EXAMINATION 2013

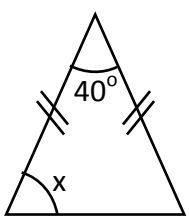
MATHEMATICS

1. Write in figure, forty-two thousand and eighteen. (a) 420,118 (b) 420,018 (c) 42,118 (d) 42,108 (e) 42,018
2. Find the sum of 0.02, 7, 4 and 2.58 (a) 8 (b) 9 (c) 10 (d) 11 (e) 12
3. What is the LCM of 16 and 24? (a) 8 (b) 16 (c) 24 (d) 40 (e) 48
4. Express 'X'cm in metre. (a) (0.01x)metres (b) (0.1x)metres (c) (x)metres (d) (10x)metres (e) 100x metres
5. When 5 is added to six times a number, the result is 35. What is the number? (a) 4 (b) 5 (c) 6 (d) 7 (e) 8
6. If x + 4 = 6, what is the value of x? (a) 2 (b) 4 (c) 8 (d) 16 (e) 36
7. If 3y = 27, what is the value of y? (a) 3 (b) 6 (c) 9 (d) 18 (e) 21
8. If the product of 2 and 10 is divided by the sum of 2 and 3, the result is (a) 2 (b) 3 (c) 4 (d) 5 (e) 10
9. The three angle of a triangle are in the ratio 2:3:5. Calculate the size of the smallest angle. (a) 90^o (b) 54^o (c) 36^o (d) 30^o (e) 20^o
10. If the perimeter of a square floor is 32m, find its area. (a) $64m^2$ (b) $32m^2$ (c) $24m^2$ (d) $16m^2$ (e) $8m^2$
11. What is the value of 75% of 48? (a) 27 (b) 36 (c) 64 (d) 72 (e) 12
12. If a shirt costs N550.00 and a part of shoes cost N2,500. What is the cost of three shirts and two pairs of shoes? (a) N1,650.00 (b) N3,050.00 (c) N5000.00 (d) N6,650.00 (e) N8,600.00
13. A labourer is paid N4,500 per month. Calculate his annual salary. (a) N60,000.00 (b) N54,000.000 (c) N45,000.00 (d) N43,200.00 (e) N42,000.00
14. If 3:2 is expressed in the form of p:4, find the value of p. (a) 1 (b) 2 (c) 3 (d) 4 (e) 6
15. Solve the equation: 2x + 5x = 35. (a) 7 (b) 6 (c) 5 (d) 4 (e) 3
16. What interest will N850.00 yield in 2 years at 15% per annum? (a) N127.50 (b) N245.00 (c) N255.00 (d) N275.00 (e) N300.00
17. Ogaga and Ochuko are to share N1000.00 in the ratio 2:3. How much will Ogaga take home if he is to pay half of his share as debt? (a) N600.00 (b) N400.00 (c) N300.00 (d) N200.00 (e) N100.00

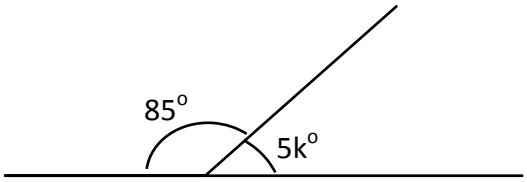
18. The minute hand of a clock turned 10 minutes. How many degrees has it turned? (a) 10^o (b) 25^o (c) 40^o (d) 60^o (e) 95^o
19. A boy buys 4 tins of milk at N360.00. How much will he buy 12 tins of milk? (a) N4,320.00 (b) N2,160.00 (c) N1,080.00 (d) N360.00
20. Find the value of $^1/_5xyz$ if x = 8, y = $^1/_{24}$ and z = 30 (a) 24 (b) 12 (c) 6 (d) 3 (e) 2
21. Find the average of 55 and 65. (a) 240 (b) 120 (c) 65 (d) 60 (e) 55
22. 3 bottle of wine and 4 bottled water cost N450.00. If each bottled water costs N35.00, how much is spent on wine? (a) N105.00 (b) N140.00 (c) N310.00 (d) N440.00 (e) N450.00
23. If q = -3 and r = ½, what is the value of ($^1/_r$ x $^q/_r$)? (a) -12 (b) -6 (c) 0 (d) 6 (e) 12
24. Calculate the perimeter of a circle of radius 7cm. ($\pi = {}^{22}/_7$) (a) 11cm (b) 22cm (c) 33cm (d) 44cm (e) 55cm
25. Given that x + 3 = 8, find x + $\sqrt{9}$ (a) 14 (b) 9 (c) 8 (d) 7 (e) 5
26. Two-third of a number is 40. What is the number? (a) 20 (b) 40 (c) 60 (d) 80 (e) 100
27. The perimeter of a rectangle is 28cm. Find the area of the rectangle if its breadth is 4cm? (a) $7cm^2$ (b) $10cm^2$ (c) $14cm^2$ (d) $28cm^2$ (e) $40cm^2$
28. 7 years ago, a boy was 6 years old. How old will he be in 8 years time? (a) 13 years (b) 14 years (c) 15 years (d) 18 years (e) 21 years
29. Find the median of: 3, 2, 3, 3, 4, 2, 3 and 2 (a) 2.5 (b) 3.0 (c) 3.5 (d) 4.0 (e) 4.5
30. Find the difference between the sum of 250 and 150, and the product of 25 and 8. (a) 400 (b) 300 (c) 200 (d) 100 (e) 50
31. Find the average of 15, 3, 10, 17, 8, 6 and 4. (a) 5 (b) 6 (c) 7 (d) 8 (e) 9
32. What is the value of t in the figure below? (a) 5^o (b) 6^o (c) 10^o (d) 12^o (e) 36^o



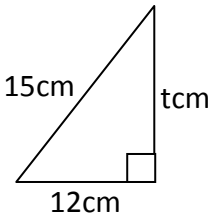
33. In the diagram below, find the angle marked x. (a) 40^o (b) 60^o (c) 70^o (d) 120^o (e) 140^o



34. The longest side of a right-angled triangle is called a/an (a) adjacent (b) diagonal (c) hypotenuse (d) opposite (e) radius
35. Find the value of k in the figure below. (a) 17 (b) 18 (c) 19 (d) 20 (e) 21



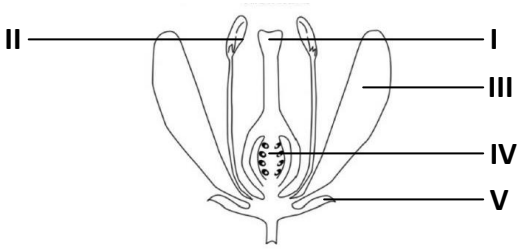
36. Find the value of the side marked t in the diagram below. (a) 5cm (b) 6cm (c) 9cm (d) 13cm (e) 14cm



37. What is the length of a triangle whose area is $225cm^2$ and breadth 9cm? (a) 25cm (b) 10cm (c) 9cm (d) 7cm (e) 50cm
38. Find the average of the set of numbers: 2.2, 3.5, 1.3, 6.0, 2.0 (a) 2.2 (b) 3.0 (c) 3.5 (d) 4.7 (e) 5.0
39. What is the sum of the median and mode of the following set of scores: 2, 1, 1, 4, 2, 2? (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
40. Find the mean of the following numbers: 2, 3, 4, 5, 7 and 9. (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

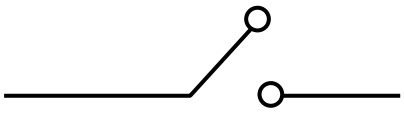
GENERAL SCIENCE

Study the diagram below and use it to answer questions 41 and 42



41. The diagram represents a (a) flower (b) leaf (c) root (d) shoot (e) stem
42. Fertilization takes place in the part labeled (a) I (b) II (c) III (d) IV (e) V
43. The following are sense organs EXCEPT (a) ear (b) eye (c) heart (d) skin (e) tongue

44. The type of food needed by the body to fight against disease are (a) carbohydrates (b) lipids (c) protein (d) roughages (e) vitamins
45. Toads and frogs are generally called (a) amphibians (b) aves (c) mammals (d) pisces (e) reptiles
46. In water treatment, chlorine is added to water so as to (a) coagulate the solids (b) correct the pH (c) improve the taste (d) kill the germs (e) remove the odour
47. Salt can be recovered from a salt solution by a process called (a) distillation (b) evaporation (c) filtration (d) freezing (e) sieving
48. The process by which vapours from a heated liquid gather together to form liquid is called (a) condensation (b) distillation (c) evaporation (d) filtration (e) freezing

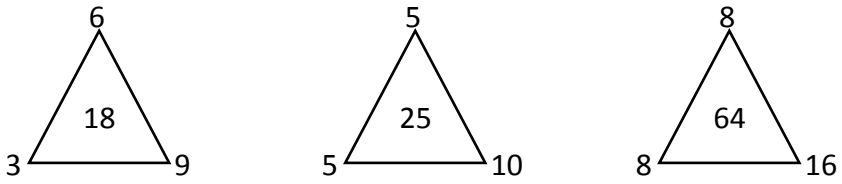


49. The circuit symbol above represents a ____ (a) battery (b) bulb (c) cell (d) fuse (e) switch
50. The instrument used for measuring the speed of wind is a/an (a) anemometer (b) barometer (c) hygrometer (d) rain guage (e) wind vane.

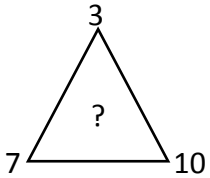
QUANTITATIVE APTITUDE

Instruction: Below are series of problems that are based on quantitative reasoning. Before answering the questions, study the sample that precedes each set and then use it to tackle the problems in the set.

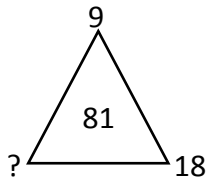
Sample A:



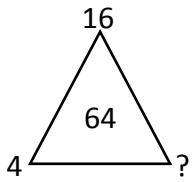
Use the above sample to answer questions 1 to 3. [Hint: 3 x 6 = 18 9 – 3 = 6]

1. 

(a) 20
(b) 21
(c) 25
(d) 27
(e) 30

2. 

(a) 18
(b) 15
(c) 10
(d) 9
(e) 3

3. 

(a) 8
(b) 16
(c) 20
(d) 24
(e) 30

Sample B:

20	4
25	

18	3
36	

21	7
9	

Use the above sample to answer questions 4 to 6. [Hint: $(^{20}/_{4})^2 = 25$

4.

28	4
?	

(a) 49 (b) 32 (c) 24 (d) 7 (e) 1

5.

?	10
25	

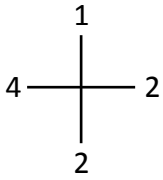
(a) 5 (b) 10 (c) 15 (d) 30 (e) 50

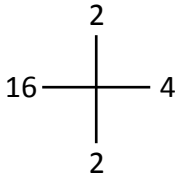
6.

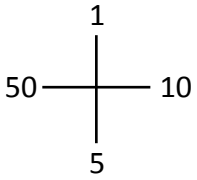
5	?
25	

(a) 1 (b) 5 (c) 25 (d) 35 (e) 50

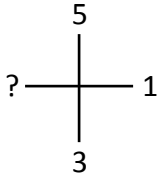
Sample C:



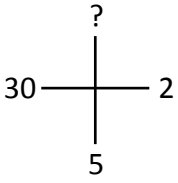




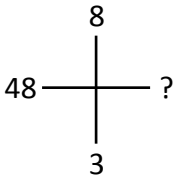
Use the above sample to answer questions 7 to 10. [Hint: 2 x 2 = $^{16}/_{4}$]

7. 

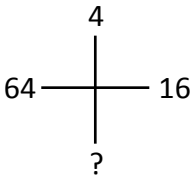
(a) 8 (b) 9 (c) 14 (d) 15 (e) 30

8. 

(a) 3 (b) 5 (c) 15 (d) 25 (e) 30

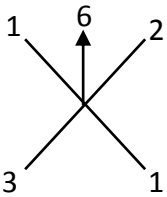
9. 

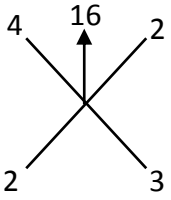
(a) 2 (b) 3 (c) 6 (d) 8 (e) 24

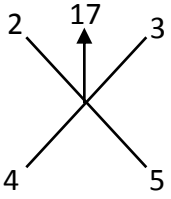
10. 

(a) 24 (b) 18 (c) 6 (d) 4 (e) 1

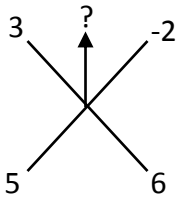
Sample D:



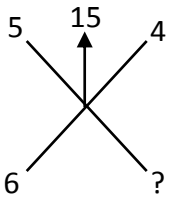




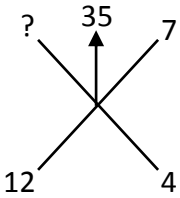
[Hint: 3 + 2 + 1 x 1 = 6]

11. 

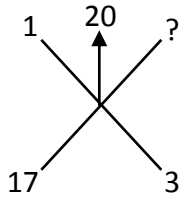
(a) -10 (b) 8 (c) 18 (d) 21 (e) 24

12. 

(a) 10 (b) 8 (c) 5 (d) 3 (e) 1

13. 

(a) 4 (b) 8 (c) 12 (d) 16 (e) 24

14. 

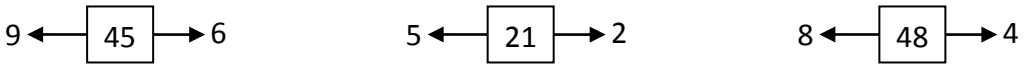
(a) 0 (b) 1 (c) 3 (d) 5 (e) 10

Sample E: $3 \triangle 5 = 64$, $1 \triangle 2 = 9$ [Hint: $(3 + 5)^2 = 64$]
$6 \square 2 = 16$, $12 \square 2 = 100$

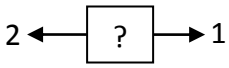
15. $7 \triangle 3 = ?$ (a) 10 (b) 21 (c) 58 (d) 60 (e) 100

16. $13 \square 12 = ?$ (a) 36 (b) 15 (c) 9 (d) 6 (e) 1

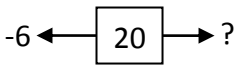
17. $(2 \triangle 3) + (5 \square 5) = ?$ (a) 6 (b) 10 (c) 25 (d) 30 (e) 31

Sample F: 

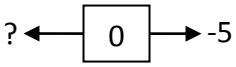
Use the above sample to answer questions 18 to 20. [Hint: $9^2 - 6^2 = 45$]

18. 

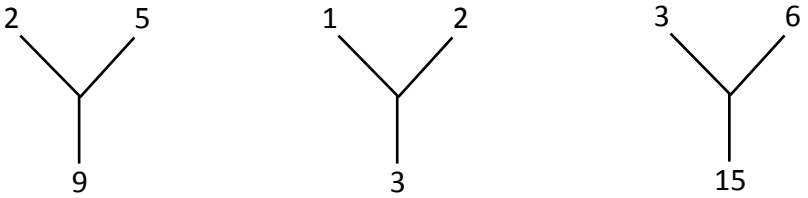
(a) 9 (b) 5 (c) 3 (d) 2 (e) 1

19. 

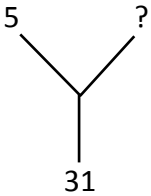
(a) 18 (b) 16 (c) 4 (d) 2 (e) 1

20. 

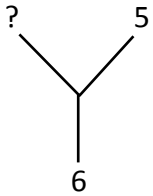
(a) 25 (b) 15 (c) 10 (d) 5 (e) 0

Sample G: 

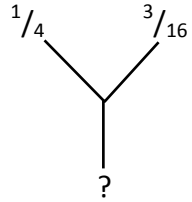
Use the above sample to answer questions 21 to 23. [Hint: $2^2 + 5 = 9$]

21. 

(a) 5
(b) 6
(c) 25
(d) 26
(e) 36

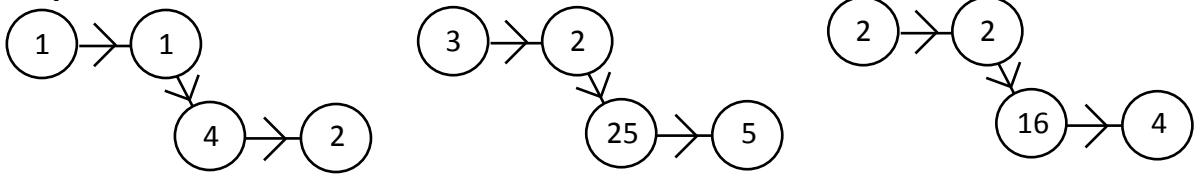
22. 

(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

23. 

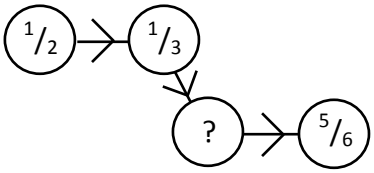
(a) $^3/_{64}$
(b) $^1/_6$
(c) $^3/_{16}$
(d) $^1/_4$
(e) $^7/_{16}$

Sample H:



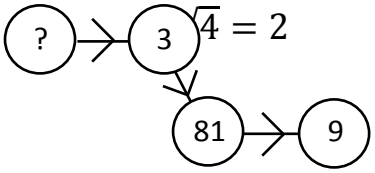
Use the above sample to answer questions 24 to 26. Hint: (1 + 1)2 = 4

24.



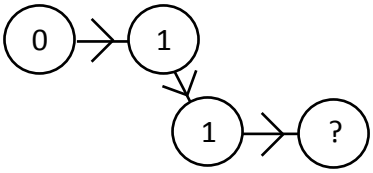
(a) $^{1}/_{5}$ (b) $^{1}/_{3}$ (c) $^{25}/_{36}$ (d) $^{28}/_{36}$ (e) $^{5}/_{6}$

25.



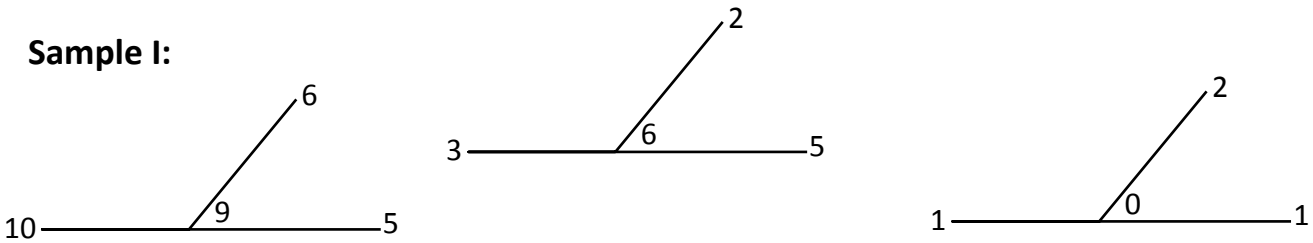
(a) 6 (b) 9 (c) 27 (d) 81 (e) 90

26.



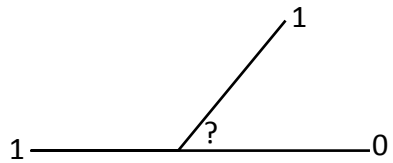
(a) 0 (b) 1 (c) 2 (d) 3 (e) 4

Sample I:



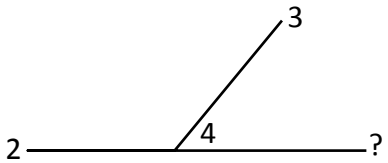
Use the above sample to answer questions 27 to 29. [Hint: 10 + 5 – 6 = 9]

27.



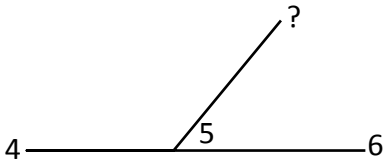
(a) -2 (b) -1 (c) 0 (d) 1 (e) 2

28.



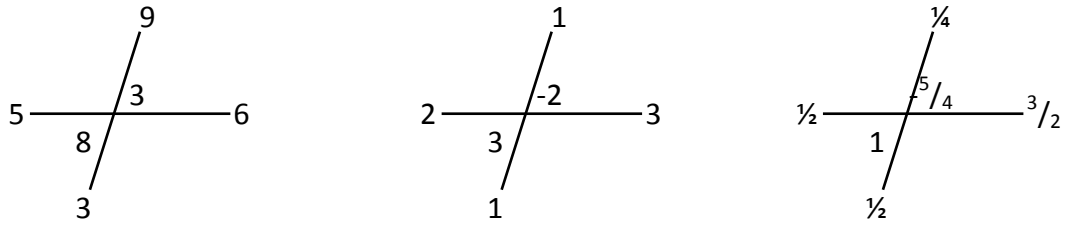
(a) 2 (b) 3 (c) 4 (d) 5 (e) 6

29.

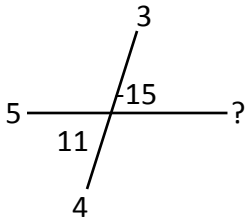


(a) 10 (b) 6 (c) 5 (d) -1 (e) -2

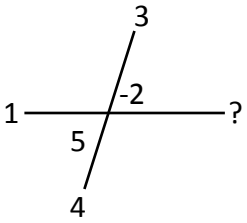
Sample J:



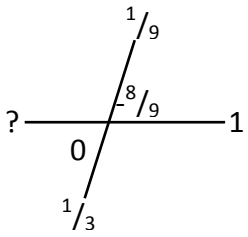
Use the above sample to answer question 30 to 32. [Hint: 5 + 3 =8 | 9 – 6 = 3]

30. 

(a) $^1/_{49}$
(b) $^1/_7$
(c) 1
(d) 5
(e) 6

31. 

(a) -5
(b) -4
(c) -3
(d) 5
(e) 6

32. 

(a) $^1/_9$ (b) $^1/_6$ (c) $^1/_3$ (d) 0 (e) $-^1/_3$

Sample K:

4	5
1	4

1	3
2	2

$^1/_2$	1
$^1/_2$	$^1/_4$

Use the above sample to answer questions 33 to 35. [Hint: 1 + 4 = 5 | 1 x 4 = 4]

33.

$^1/_3$	?
$^1/_4$	$^1/_{12}$

(a) $^1/_7$
(b) ¼
(c) $^1/_3$
(d) ½
(e) $^1/_{12}$

34.

3	5
2	?

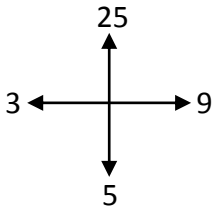
(a) 1
(b) 2
(c) 3
(d) 4
(e) 6

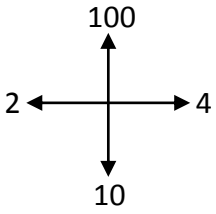
35.

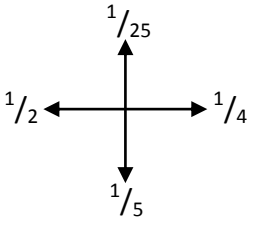
$^1/_3$	$^7/_3$
?	$^2/_3$

(a) $^2/_3$
(b) $^7/_9$
(c) 1
(d) 2
(e) 3

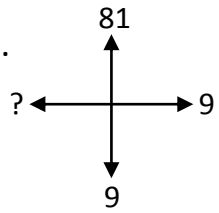
Sample L:



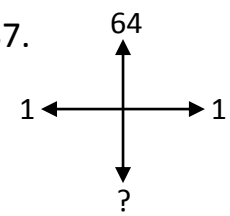




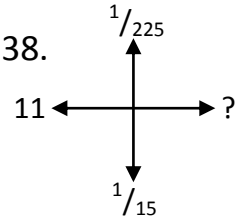
Use the above sample to answer questions 36 to 38. [Hint: $5^2 = 25$ | $3^2 = 9$]

36. 

(a) 19
(b) 12
(c) 10
(d) 9
(e) 3

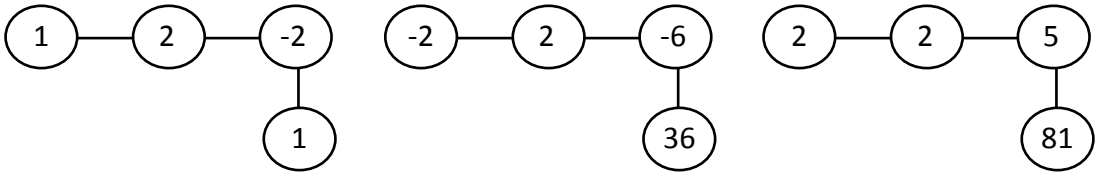
37. 

(a) 13
(b) 12
(c) 10
(d) 8
(e) 6

38. 

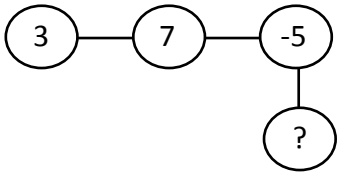
(a) 121
(b) 100
(c) 81
(d) 63
(e) 50

Sample M:

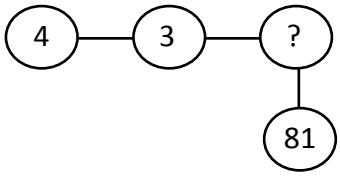


Use the sample to answer questions 39 to 40. Hint: $(1 + 2 + -2)^2 = 1$

$(2 + 2 + 5)^2 = 81$

39. 

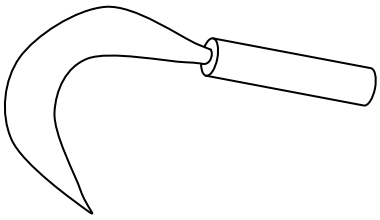
(a) 2 (b) 3 (c) 11 (d) 14 (e) 25

40. 

(a) 12 (b) 7 (c) 5 (d) 2 (e) 1

VOCATIONAL

41. A professional who treats teeth is called a/an (a) dentist (b) gynaecologist (c) optician (d) surgeon (e) anaesthetian
42. A first aid box contains the following EXCEPT (a) cotton wool (b) iodine tincture (c) plaster (d) scissors (e) syringe
43. Cement is to builder as flour is to (a) baker (b) dryer (c) embroider (d) surveyor (e) tailor
44. Driver is to car as _____ is to plane (a) pilot (b) rider (c) sailor (d) skater (e) skier
45. Hoe is to a farmer as _____ is to a fisherman. (a) chisel (b) net (c) saw (d) sickle (e) trowel
46. Which of these professional uses stethoscope? (a) Doctor (b) Lawyer (c) Plumber (d) Surveyor (e) Teacher
47. Which of these is NOT a GSM service provider in Nigeria? (a) Airtel (b) Etisalat (c) Glo (d) MTN (e) Nitel
48. The object drawn below is basically for (a) grafting (b) harvesting (c) planting (d) pruning (e) weeding

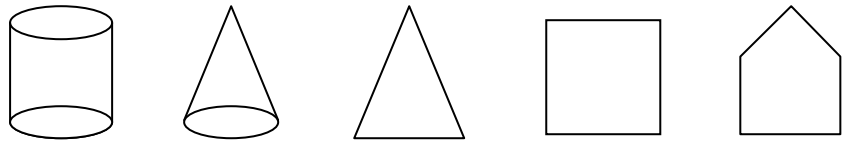


49. The following tools are used by mechanics EXCEPT (a) hammer (b) plier (c) screw-driver (d) shovel (e) spanner
50. Which of these professionals does NOT work in the hospital? (a) Astronomer (b) Dentist (c) Doctor (d) Nurse (e) Surgeon

NATIONAL COMMON ENTRANCE EXAMINATION 2014

MATHEMATICS

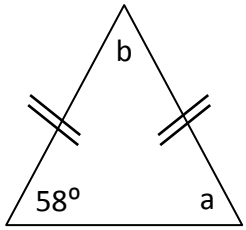
1. Express 744 in Roman numerals. (a) CDXLIV (b) DCCXLIV (c) DCCXLVI (d) DCCLIV (e) DCCLXIV
2. What is the place value of 3 in the number: 8,318? (a) 3 tens (b) 3 tenths (c) hundreds (d) hundredths (e) 3 thousands
3. Express in Arabic numeral the Roman numeral CCC. (a) 30 (b) 300 (c) 303 (d) 330 (e) 360
4. A quadrilateral has how many angles? (a) 3 (b) 4 (c) 5 (d) 6 (e) 7
5. Find the LCM of 2, 3, 5 and 7 (a) 68 (b) 75 (c) 95 (d) 105 (e) 210



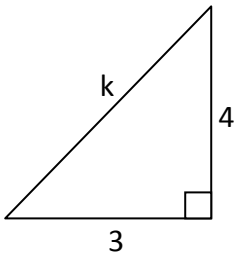
I II III IV V

6. Which of these shapes is a cylinder? (a) I (b) II (c) III (d) IV (e) V
7. 563 + □ = 721 (a) 258 (b) 254 (c) 158 (d) 156 (e) 154
8. Simplify $(2^1/_2 + 1^2/_3) \div {}^5/_6$ (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
9. If you multiply the sum of 546 and 1711 by zero, what will be your result? (a) 934,206 (b) 920,200 (c) 810,000 (d) 200 (e) 0
10. Find the value of x if 5 – 8x = 29. (a) -3 (b) -2 (c) 0 (d) 2 (e) 3
11. Which is the smallest of these fractions? $^2/_5$, ½, $^1/_3$, ¾ and $^2/_3$. (a) ¾ (b) $^2/_3$ (c) ½ (d) $^2/_5$ (e) $^1/_3$
12. A tree-sided plane figure is called (a) decagon (b) octagon (c) pentagon (d) rectangle (e) triangle
13. Find the value of x if 2(3x + 3) = 18. (a) 2 (b) 5 (c) 7 (d) 9 (e) 11
14. Find the HCF of 15, 18 and 24. (a) 3 (b) 6 (c) 30 (d) 45 (e) 120
15. What is the smallest number that can be divided exactly by 2 and 3? (a) 5 (b) 6 (c) 7 (d) 8 (e) 9
16. Ochuko bought 3 bags of rice at the rate of N12,000.00 per bag. How much did he pay for the 3 bags? (a) N24,000.00 (b) N26,000.00 (c) N32,000.00 (d) N36,000.00 (e) N40,000.00
17. Multiply 6204 by 0.0031. (a) 19.23 (b) 19.53 (c) 190.23 (d) 191.23 (e) 192.32

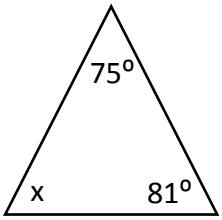
18. What must be divided by 9 to obtain 32? (a) 24 (b) 72 (c) 144 (d) 288 (e) 576
19. Find the value of a + b in the diagram below. (a) 58° (b) 64° (c) 116° (d) 122° (e) 131°



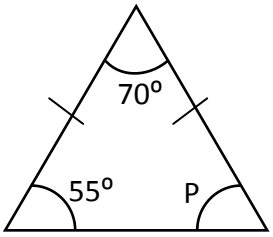
20. Emaniru and Odorige have N980.00 to share. If Odorigbe's share must be N50.00 greater, how much will Emaniru receive? (a) N440.00 (b) N465.00 (c) N480.00 (d) N515.00 (e) N540.00
21. If $^{1}/_{9} = {}^{16}/_{18}$, what is the value of t? (a) 8 (b) 9 (c) 12 (d) 16 (e) 48
22. Ezejiofor trekked 2 kilometres in 30 minutes, how many minutes will it take him to trek 5 kilometres? (a) 45 mins. (b) 55 mins. (c) 60 mins. (d) 75 mins. (e) 80 mins.
23. A man spends N8200.00 on power monthly. How much will he spend in 3 months? (a) N24,000.00 (b) N24,200.00 (c) N24,400.00 (d) N24,600.00 (e) N24,800.00
24. If x = 3, y = 5 and z = -1, find the value of xy – yz. (a) -15 (b) -10 (c) 10 (d) 15 (e) 20
25. Find the area of a rectangle of length 12cm and breadth 10cm. (a) 210cm² (b) 120cm² (c) 100cm² (d) 51cm² (e) 22cm²
26. In the figure below, calculate the value of k. (a) 7 (b) 5 (c) 4 (d) 3 (e) 2



27. Mohammed bought 140 lemons and shared 25% of them to his friends. How many lemons has he left? (a) 28 (b) 112 (c) 120 (d) 140 (e) 168
28. Find the value of x in the figure below. (a) 9 (b) 15 (c) 20 (d) 24 (e) 26



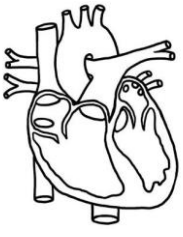
29. What is the square root of 625? (a) 5 (b) 15 (c) 20 (d) 25 (e) 35
30. Calculate the area of a circle whose radius is 7cm. Take $\pi = {}^{22}/_{7}$. (a) 130cm² (b) 154cm² (c) 203cm² (d) 949cm² (e) 1078cm²
31. If $y^2 + 18 = 27$, what is the positive value of y? (a) 3 (b) 4 (c) 9 (d) 18 (e) 27
32. A closed cylinder has _____ circular faces. (a) 1 (b) 2 (c) 3 (d) 4 (e) 5
33. A boy runs a distance of 200m in 25 seconds. What is his average speed? (a) 2 m/s (b) 4 m/s (c) 6 m/s (d) 8 m/s (e) 10 m/s
34. Muiz bought 8 mangoes for N160.00 and sold each one for N250.00. What is his percentage gain? (a) 15% (b) 20% (c) 25% (d) 30% (e) 50%
35. How many pieces of rod each 15cm long can be cut from a rod 6m long? (a) 2½ (b) 10 (c) $24^{1}/_{3}$ (d) 30 (e) 40
36. Which of the following is not a perfect square? (a) 4 (b) 9 (c) 15 (d) 16 (e) 25
37. If ${}^{x}/_{15} = {}^{1}/_{3}$, find the value of x. (a) 3 (b) 5 (c) 10 (d) 15 (e) 18
38. Olu and Tunde shared N1,200.00. Olu gets N100.00 more than Tunde, how much does Tunde get? (a) N500.00 (b) N550.00 (c) N600.00 (d) N650.00 (e) N700.00
39. Calculate the value of P in the diagram below. (a) 55° (b) 65° (c) 70° (d) 110° (e) 125°



40. Find the average scores of 6, 8, 7, 3, 2 and 4. (a) 2 (b) 4 (c) 5 (d) 6 (e) 8

BASIC SCIENCE

41. In mammals, the canine is used for (a) biting (b) chewing (c) cutting (d) grinding (e) tearing
42. Which of the following animals is not a reptile? (a) alligator (b) crocodile (c) lizard (d) snake (e) toad
43. The diagram below represents the mammalian ___ (a) brain (b) ear (c) heart (d) kidney (e) liver



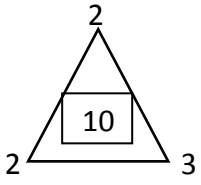
44. Which of these plants grow on dead plants? (a) hyacinth (b) lettuce (c) melon (d) mushroom (e) water lily
45. The removal of waste products from the body is known as ____ (a) circulation (b) digestion (c) excretion (d) reproduction (e) respiration
46. The vessels that carry blood away from the heart is called ____ (a) arteries (b) auricles (c) capillaries (d) veins (e) ventricles
47. Which of these waste products is excreted by the kidney? (a) bile (b) carbon dioxide (c) sweat (d) urea (e) urine
48. The following are organs of respiration except ____ (a) bronchus (b) liver (c) lungs (d) nostrils (e) wind pipe
49. Which of the following parts of a flower receives pollen grains during pollination? (a) anther (b) ovary (c) petals (d) stigma (e) style
50. The gliding joint is found in the ____ (a) ankles (b) elbows (c) finger (d) knee (e) neck

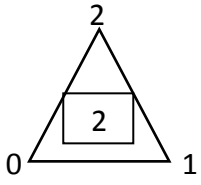
QUANTITATIVE APTITUDE

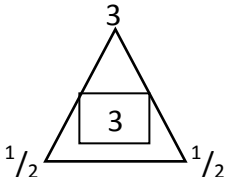
Below are series of problems that are based on quantitative reasoning. Before answering the questions, study the sample that precedes each set and then use it to tackle the problems in that set.

Sample A:

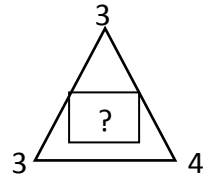
Hint: ½ + ½ x 3 = 3





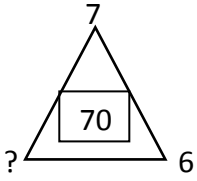


1.



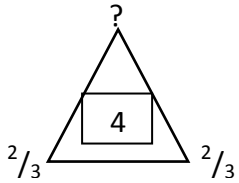
(a) 10 (b) 15 (c) 21 (d) 24 (e) 36

2.



(a) 4 (b) 5 (c) 10 (d) 16 (e) 28

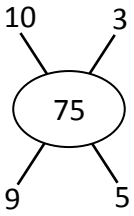
3.

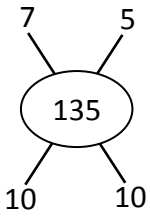


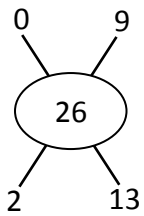
(a) $^{2}/_{3}$ (b) $1^{1}/_{3}$ (c) 3 (d) 4 (e) 12

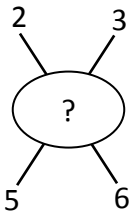
Sample B:

Hint: 10 x 3 + 9 x 5 = 75

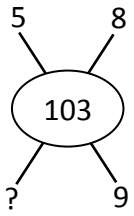




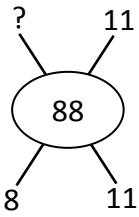


4. 

(a) 16
(b) 28
(c) 30
(d) 36
(e) 60

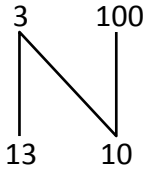
5. 

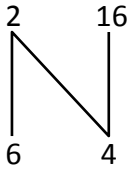
(a) 3
(b) 4
(c) 7
(d) 17
(e) 45

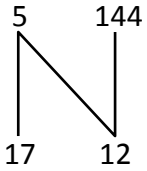
6. 

(a) 77
(b) 22
(c) 19
(d) 4
(e) 0

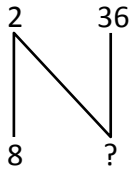
Sample C:



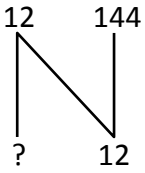




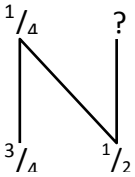
Hint: 17 – 5 x 12 = 144

7. 

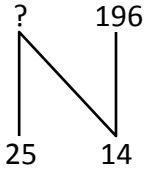
(a) 2
(b) 4
(c) 6
(d) 8
(e) 10

8. 

(a) 0
(b) 4
(c) 12
(d) 18
(e) 24

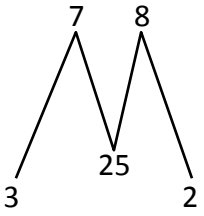
9. 

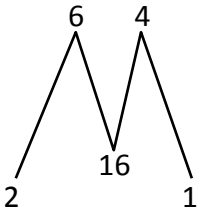
(a) $-\frac{1}{2}$
(b) ¼
(c) ½
(d) $\frac{9}{16}$
(e) $\frac{3}{4}$

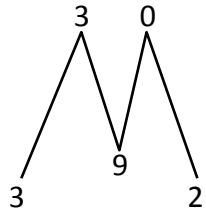
10. 

(a) -11
(b) -10
(c) 10
(d) 11
(e) 14

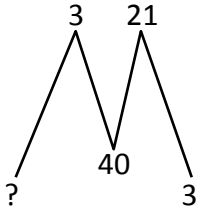
Sample D:



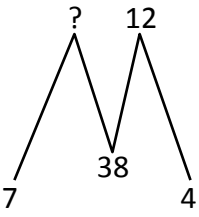




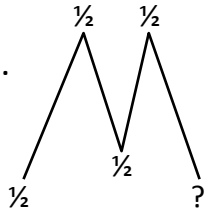
Hint: 7 x 3 + $\frac{8}{2}$ = 25

11. 

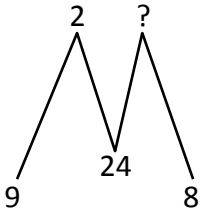
(a) 3
(b) 11
(c) 33
(d) 43
(e) 63

12. 

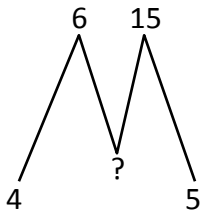
(a) 3
(b) 4
(c) 5
(d) 6
(e) 11

13. 

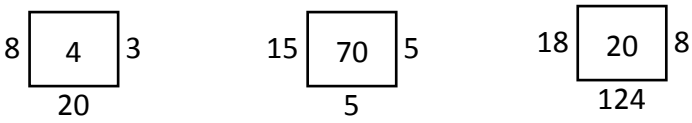
(a) -2
(b) -1
(c) 0
(d) 1
(e) 2

14. 

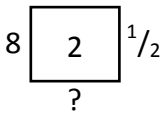
(a) 12
(b) 16
(c) 18
(d) 48
(e) 72

15. 

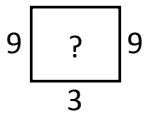
(a) 20
(b) 24
(c) 27
(d) 75
(e) 90

Sample E: 

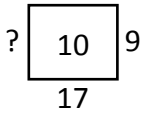
Hint: 8 x 3 – 4 = 20

16. 

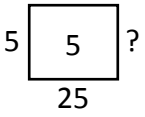
(a) ½
(b) 2
(c) 6
(d) $8^1/_2$
(e) 10

17. 

(a) 81
(b) 78
(c) 45
(d) 18
(e) 6

18. 

(a) 27
(b) 26
(c) 19
(d) 3
(e) 1

19. 

(a) 6
(b) 10
(c) 1
(d) 20
(e) 30

Sample F: $3 \longrightarrow 3 = 6$ $12 \longleftarrow 3 = 4$ $3 \longleftrightarrow 5 = 8$

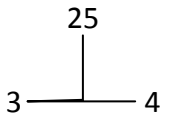
20. $3 \longleftrightarrow (3 \longrightarrow 12)$ (a) 8 (b) 15 (c) 20 (d) 36 (e) 41

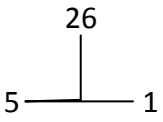
21. $4 \longrightarrow 6 \longleftarrow 2$ (a) 6 (b) 8 (c) 10 (d) 12 (e) 24

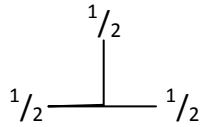
22. $\dfrac{3 \longrightarrow 6}{24 \longleftarrow 4}$ (a) 3 (b) 6 (c) 9 (d) 18 (e) 20

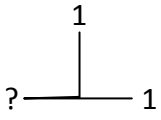
Sample G:

Hint: $3^2 + 4^2 = 25$

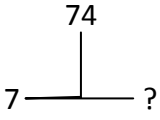




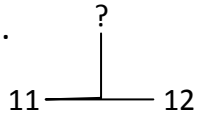


23. 

(a) 4
(b) 3
(c) 2
(d) 1
(e) 0

24. 

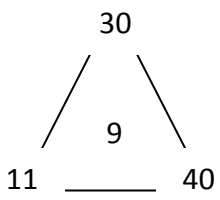
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

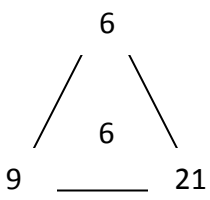
25. 

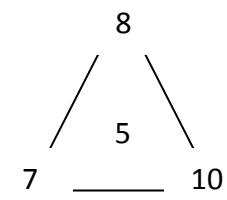
(a) 13
(b) 23
(c) 135
(d) 165
(e) 265

Sample H:

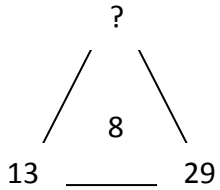
$\sqrt{7 + 8 + 10} = 5$





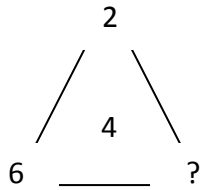


26.



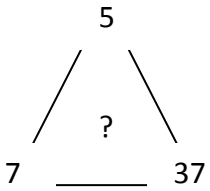
(a) 50
(b) 37
(c) 22
(d) 21
(e) 5

27.



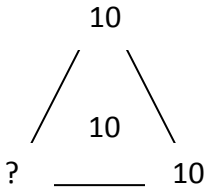
(a) 8
(b) 9
(c) 10
(d) 12
(e) 14

28.



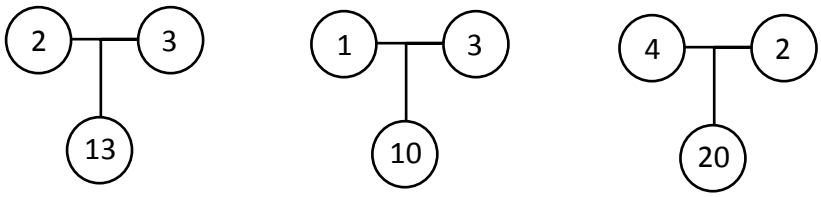
(a) 7
(b) 8
(c) 32
(d) 44
(e) 49

29.



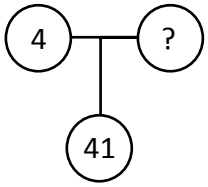
(a) 10
(b) 70
(c) 80
(d) 100
(e) 120

Sample I:



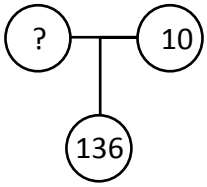
Hint: $2^2 + 3^2 = 13$

30.



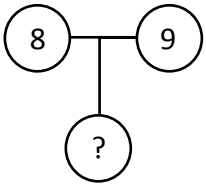
(a) 4
(b) -5
(c) 9
(d) 16
(e) 25

31.



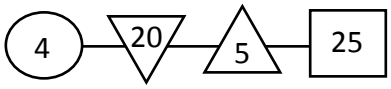
(a) 6
(b) 10
(c) 16
(d) 36
(e) 100

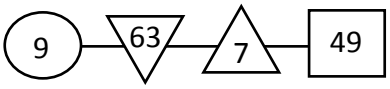
32.



(a) 17
(b) 34
(c) 64
(d) 81
(e) 145

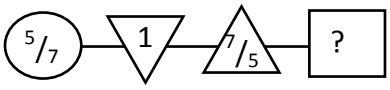
Sample J:





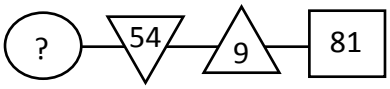
Hint: 4 x 5 = 20 | $5^2 = 25$

33.



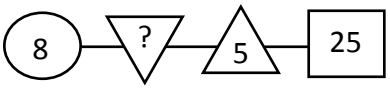
(a) $^{25}/_{49}$ (b) $^{24}/_{25}$ (c) $1^{5}/_{7}$ (d) $1^{24}/_{25}$ (e) $2^{2}/_{5}$

34.



(a) 6 (b) 9 (c) 27 (d) 45 (e) 63

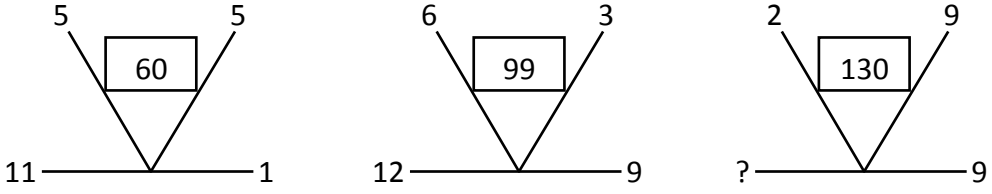
35.

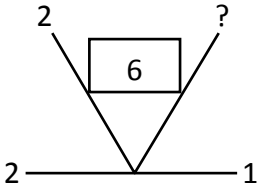


(a) 13 (b) 30 .c .40 (d) 125 (e) 20

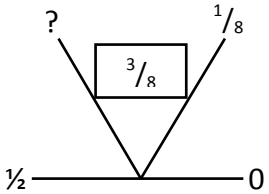
Sample K:

Hint:
11 x 5 + 5 x 1 = 60

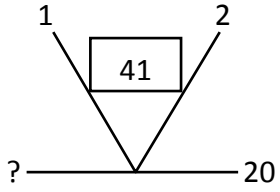


36. 

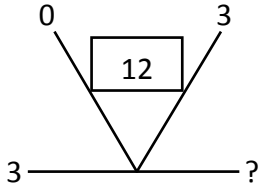
(a) 0
(b) 1
(c) 2
(d) 3
(e) 4

37. 

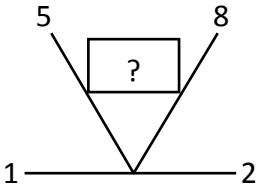
(a) $^1/_4$
(b) $^1/_3$
(c) $^2/_5$
(d) ½
(e) $^3/_4$

38. 

(a) 1
(b) 0
(c) -1
(d) -2
(e) -3

39. 

(a) 6
(b) 4
(c) 3
(d) 2
(e) 1

40. 

(a) 11
(b) 12
(c) 16
(d) 21
(e) 42

VOCATIONAL

41. All the following tools are used by a carpenter except ____ (a) chisel (b) hammer (c) mallet (d) saw (e) shovel
42. Which of the following is used for making local pot? (a) cement (b) clay (c) plastic (d) rubber (e) sand
43. Which of the following items is not used in a workshop? (a) apron (b) boot (c) goggle (d) helmet (e) veil
44. The person who installs water system in a building is called a ___ (a) doctor (b) lawyer (c) mechanic (d) plumber (e) teacher
45. Which of the following tools is not used by an electrician? (a) fishing tape (b) gimlet (c) mallet (d) plier (e) tester
46. The part of a car that slows it down or stops it from moving is called ____ (a) brake (b) clutch (c) gear (d) steering (e) wheel
47. A metal is usually heated before shaping in order to make it (a) bright (b) hard (c) neat (d) soft (e) strong
48. Which of the following foot items is a source of protein? (a) banana (b) egg (c) plantain (d) rice (e) yam
49. A good storage facility for fruit and vegetable is the ____ (a) cupboard (b) jar (c) refrigerator (d) shelve (e) tin
50. The following are food crops except (a) beans (b) cotton (c) groundnut (d) millet (e) yam

NATIONAL COMMON ENTRANCE EXAMINATION 2015

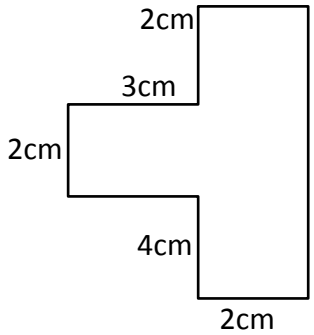
MATHEMATICS

1. What is the place value of 5 in 4.053? (a) 5 hundreds (b) 5 tens (c) 5 units (d) 5 tenths (e) 5 hundredths
2. Write in Roman numerals one thousand, five hundred and eighty four. (a) MMDLXXIV (b) MDLXXXVII (c) MDLXXXIV (d) DLXXIV (e) CLXVI
3. Find the sum of 1.42, 0.1 and 0.7. (a) 0.22 (b) 1.22 (c) 2.22 (d) 3.22 (e) 4.22
4. Arrange: $^{1}/_{5}$; ¾; $^{7}/_{8}$ and ½ in descending order. (a) $^{7}/_{8}$; ¾; ½; $^{1}/_{5}$ (b) $^{7}/_{8}$; ½; ¾; $^{1}/_{5}$ (c) $^{7}/_{8}$; ¾; $^{1}/_{5}$; ½ (d) $^{7}/_{8}$; $^{1}/_{5}$; ½; ¾ (e) ¾; $^{1}/_{5}$; ½; $^{7}/_{8}$
5. Find the cube root of $^{8}/_{27}$. (a) $^{1}/_{3}$ (b) $^{2}/_{3}$ (c) 1 (d) $1^{1}/_{3}$ (e) $3^{1}/_{9}$
6. Correct 0.006678 to 3 decimal places. (a) 0.006 (b) 0.00667 (c) 0.00668 (d) 0.007 (e) 0.01
7. In a class, there are 25 boys and 15 girls. Find the ratio of boys to girls. (a) 3:5 (b) 3:8 (c) 5:3 (d) 5:8 (e) 8:5
8. How many prime numbers are there in the set of numbers below? 12, 13, 14, 15, 16, 17, 18, 19, 20. (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
9. What is eight million, two hundred thousand and nine in figures? (a) 8,000,209 (b) 8,002,009 (c) 8,200,009 (d) 8,200,900 (e) 8,290,000
10. What is the HCF of 9, 12, and 15? (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
11. Express $^{5}/_{8}$ as a decimal fraction. (a) 0.652 (b) 0.625 (c) 0.605 (d) 0.265 (e) 0.062
12. What must be added to the sum of 1½ and 2¼ to make 5½? (a) $4^{3}/_{4}$ (b) $3^{3}/_{4}$ (c) $1^{3}/_{4}$ (d) $1^{1}/_{2}$ (e) $1^{1}/_{4}$
13. Find the LCM of 15 and 24. (a) 120 (b) 100 (c) 72 (d) 24 (e) 15
14. Pieto bought a wristwatch for N250.00 and sold it for N300.00. What is his percentage gain? (a) 10% (b) 20% (c) 30% (d) 40% (e) 50%
15. In a school that has 400 pupils, 435 pupils are girls. How many boys are there in the school? (a) 1235 (b) 800 (c) 435 (d) 365 (e) 300
16. Find the simple interest on N6,000.00 for 5 years at 3% per annum. (a) N90.00 (b) N180.00 (c) N300.00 (d) N900.00 (e) N1500.00
17. A girl buys 2 packets of sweet for N180.00. How much will she buy 12 packets? (a) N4320.00 (b) N2160.00 (c) N1080.00 (d) N920.00 (e) N360.00

18. Working for 10 hours a day, a painter completes a job in 15 days. How long would it take him if he works for 6 hours a day? (a) 20 days (b) 25 days (c) 30 days (d) 40 days (e) 90 days

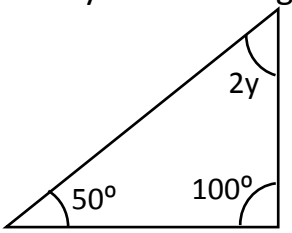
Given that a = 4, b = 5, c = 2 and d = 0. Use the information to answer questions 19 and 20.

19. Find the value of $c^2 + a^2$ (a) 35 (b) 20 (c) 15 (d) 10 (e) 5
20. What is the value of bcd? (a) 5 (b) 4 (c) 1 (d) 0 (e) -2
21. Calculate the circumference of a circle whose radius is 3.5cm. ($\pi = {}^{22}/_{7}$). (a) 11cm (b) 22cm (c) 44cm (d) 55cm (e) 77cm
22. If one-quarter of a number is 15, what is the number? (a) 60 (b) 30 (c) 20 (d) 15 (e) 5
23. The area of a square room is $25m^2$, what is the perimeter of the room? (a) 6m (b) 10m (c) 15m (d) 20m (e) 25m
24. If the product of 3 and 2 is divided by the sum of 2 and 4, the result is (a) 1 (b) 3 (c) 5 (d) 6 (e) 8
25. The minute hand of a clock turns 180^o in how many minutes? (a) 60 (b) 45 (c) 30 (d) 20 (e) 15
26. Solve the equation 3y + 4y = 49. (a) 10 (b) 7 (c) 5 (d) 4 (e) 1
27. The volume of a rectangular drum is $360cm^3$. If its length and height are 9cm and 8cm respectively, calculate its breadth. (a) 5cm (b) 13cm (c) 14cm (d) 72cm (e) 92cm
28. Given that y – 2 = 6, find $y + \sqrt{4}$ (a) 6 (b) 8 (c) 10 (d) 12 (e) 14

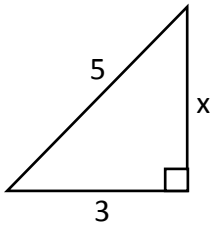


29. Find the perimeter of the figure above. (a) 13 (b) 15 (c) 16 (d) 18 (e) 26
30. 2 years ago, a girl was 7 years old, how old will she be in 5 years time? (a) 7 (b) 9 (c)10 (d) 12 (e) 14

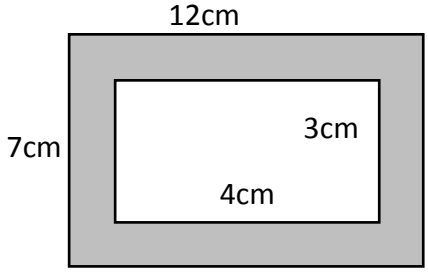
31. What is the value of y in the triangle below? (a) 60^o (b) 50^o (c) 40^o (d) 20^o (e) 15^o



32. If $2x^2 = 8$, what is the value of x? (a) 2 (b) 4 (c) 9 (d) 18 (e) 20
33. The sum of two right angles is equal to ___ (a) 90^o (b) 150^o (c) 180^o (d) 270^o (e) 360^o
34. What is the value of c in the equation: $^c/_3 = {}^{27}/_3$? (a) 3 (b) 9 (c) 24 (d) 27 (e) 30
35. Find the value of x in the diagram below. (a) 8 (b) 4 (c) 3 (d) 2 (e) 1



36. When 4 is subtracted from five times a number, the result is 16. What is the number? (a) 3 (b) 4 (c) 5 (d) 6 (e) 7
37. The area of a rectangle is $40cm^2$. Find the length of the rectangle if its breadth is 5cm. (a) 5cm (b) 8cm (d) 10cm (d) 25cm (e) 35cm
38. Find the area of the shaded portion in the diagram below. (a) $12cm^2$ (b) $42cm^2$ (c) $72cm^2$ (d) $84cm^2$ (e) $96cm^2$



39. Find the mode of the following numbers: 2, 2, 3, 4, 2, 3, 5, 7 and 9. (a) 2 (b) 3 (c) 4 (d) 5 (e) 7
40. Find the average of 13, 14, 12, 9, 8 and 10. (a) 8 (b) 9 (c) 10 (d) 11 (e) 12

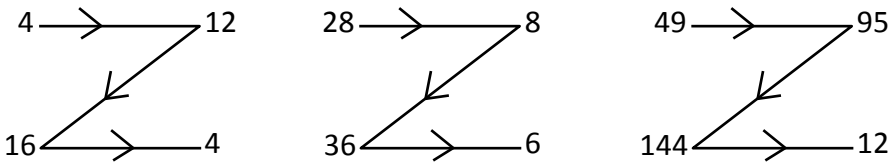
BASIC SCIENCE

41. Ringworm is a skin disease caused by (a) bacteria (b) fungi (c) insects (d) lack of vitamins (e) virus

42. Yam and rice are examples of (a) carbohydrates (b) fats and oils (c) minerals (d) proteins (e) vitamins
43. The blood vessels that carry blood from other parts of the body to the heart is called _____ (a) arteries (b) auricles (c) capillaries (d) veins (e) ventricles
44. Which of the following is not a permanent change? (a) burning of paper (b) changing of flower to fruits (c) hatching of egg to chick (d) melting of candle wax (e) rusting of needle
45. The upper arm bone is known as (a) femur (b) fibia and tibia (c) humerus (d) phalanges (e) ulna and radius
46. Which of the following is a first class lever? (a) bottle opener (b) nut cracker (c) pair of scissors (d) shovel (e) wheelbarrow
47. Which of these animals is an amphibian? (a) alligator (b) crocodile (c) lizard (d) snake (e) toad
48. Wind vane is used to measure ____ (a) humidity (b) rainfall (c) temperature (d) wind direction (e) wind speed
49. Animals that feed on grasses are called ____ (a) carnivores (b) herbivores (c) omnivores (d) predators (e) parasites
50. Which of these organs is used for tasting bitter substance in man? (a) ear (b) eye (c) mouth (d) nose (e) tongue

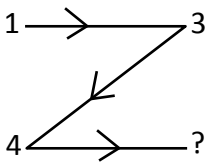
QUANTITATIVE APTITUDE

Sample A:



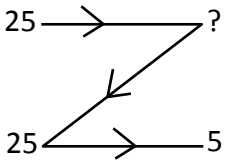
Hint: 4 + 12 = 16 | $\sqrt{16} = 4$

1.



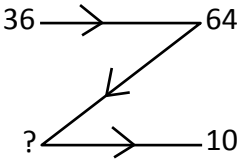
(a) 18
(b) 12
(c) 8
(d) 3
(e) 2

2.



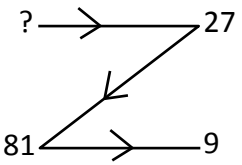
(a) 0
(b) 1
(c) 5
(d) 10
(e) 15

3.



(a) 10
(b) 20
(c) 74
(d) 100
(e) 121

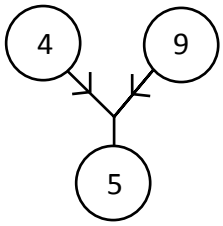
4.

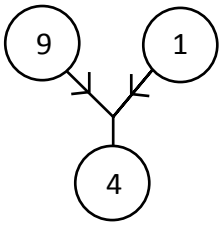


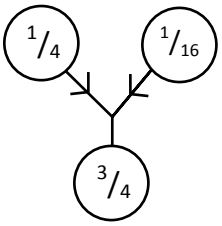
(a) 3
(b) 9
(c) 18
(d) 54
(e) 64

Sample B:

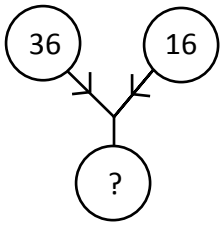
Hint: $\sqrt{4} + \sqrt{3} = 5$





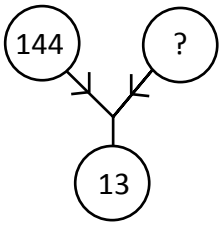


5.



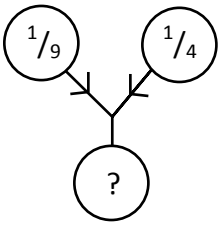
(a) 52
(b) 20
(c) 12
(d) 10
(e) 6

6.



(a) 0
(b) 1
(c) 12
(d) 131
(e) 157

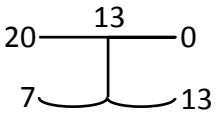
7.

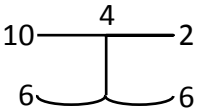


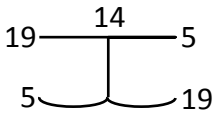
(a) $^2/_9$
(b) $^1/_3$
(c) $^2/_5$
(d) ½
(e) $^5/_6$

Sample C:

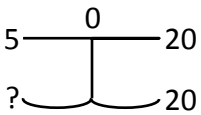
Hint: 20 – 7 = 13
13 – 0 = 13





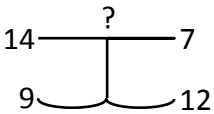


8.



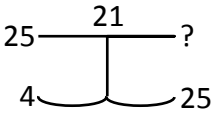
(a) 12
(b) 10
(c) 5
(d) 2
(e) 1

9.



(a) 15
(b) 12
(c) 9
(d) 7
(e) 5

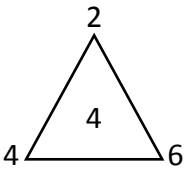
10.

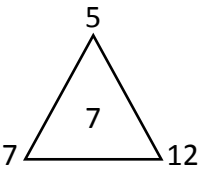


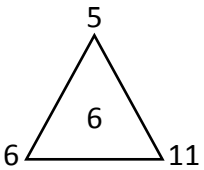
(a) 9
(b) 6
(c) 4
(d) 3
(e) 1

Sample D:

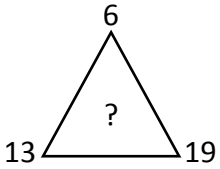
Hint: 12 – 5 = 7





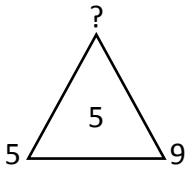


11.



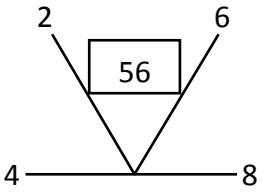
(a) 3
(b) 6
(c) 9
(d) 13
(e) 15

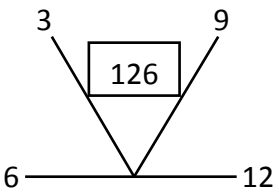
12.

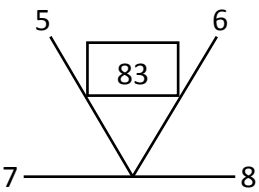


(a) 12
(b) 10
(c) 8
(d) 6
(e) 4

Sample E:

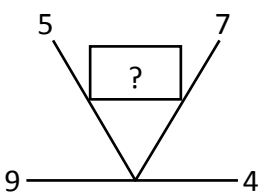






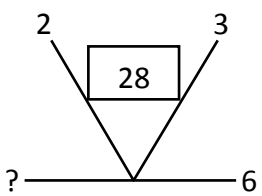
Hint: 2 x 4 + 6 x 8 = 56

13.



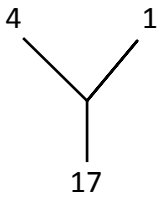
(a) 45
(b) 63
(c) 73
(d) 78
(e) 82

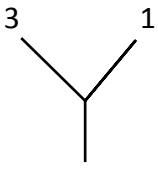
14.

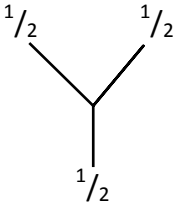


(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

Sample F:

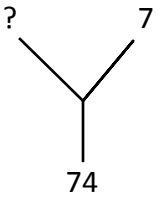






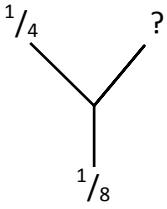
Hint: $4^2 + 1^2 = 17$

15.



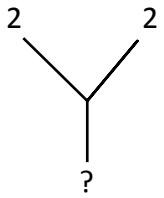
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

16.



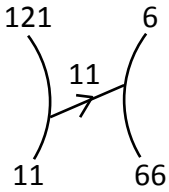
(a) $^1/_{32}$
(b) $^1/_{16}$
(c) $^1/_8$
(d) ¼
(e) $^1/_2$

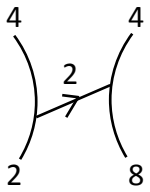
17.

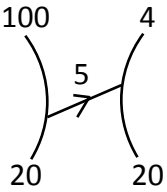


(a) 4
(b) 6
(c) 8
(d) 10
(e) 12

Sample G:

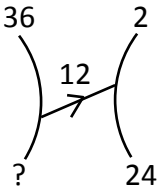






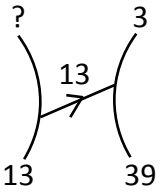
Hint: 11 x 11 = 121 | 6 x 11 = 66

18.



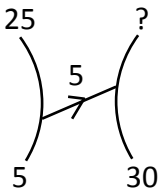
(a) 16
(b) 9
(c) 6
(d) 4
(e) 3

19.



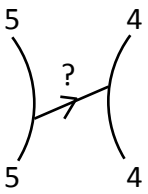
(a) 26
(b) 65
(c) 144
(d) 150
(e) 169

20.



(a) 12
(b) 6
(c) 5
(d) 3
(e) 0

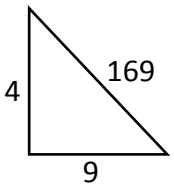
21.

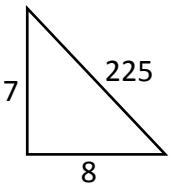


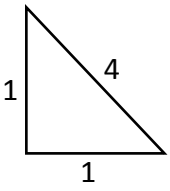
(a) 9
(b) 6
(c) 5
(d) 4
(e) 1

Sample H:

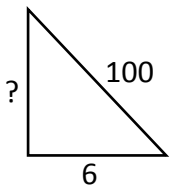
Hint: $(9 + 4)^2 = 169$





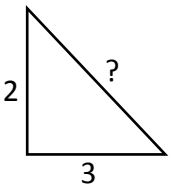


22.



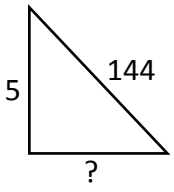
(a) 2
(b) 4
(c) 10
(d) 24
(e) 94

23.



(a) 1
(b) $1^1/_2$
(c) 5
(d) 6
(e) 25

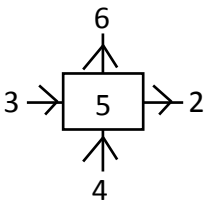
24.

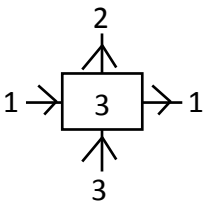


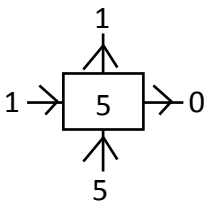
(a) $^5/_7$
(b) 2
(c) 7
(d) 35
(e) 139

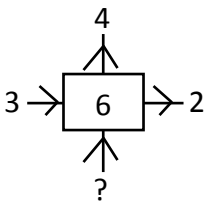
Sample I:

Hint: 6 + 4 – 3 + 2 = 5

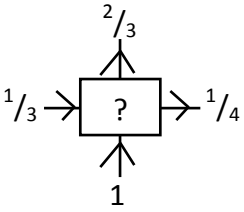




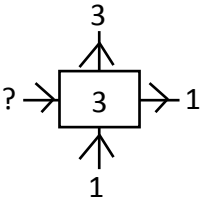


25. 

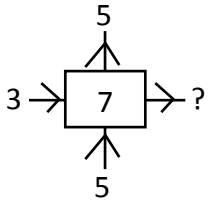
(a) 1
(b) 2
(c) 4
(d) 6
(e) 7

26. 

(a) $^{1}/_{12}$
(b) $1^{1}/_{12}$
(c) $1^{1}/_{12}$
(d) $1^{1}/_{3}$
(e) $2^{1}/_{4}$

27. 

(a) 0
(b) 1
(c) 2
(d) 3
(e) 9

28. 

(a) 0
(b) 1
(c) 2
(d) 4
(e) 8

Sample J: $3 \wedge 6 = 18$ $\quad$ $10 \text{ V } 2 = 5$

$5 \wedge 5 = 25$ $\quad$ $12 \text{ V } 16 = {}^{3}/_{4}$

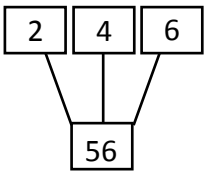
29. $12 \wedge ? = 60$ $\quad$ (a) 720 (b) 72 (c) 48 (d) 5 (e) $^{1}/_{5}$

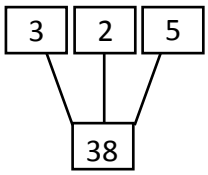
30. $4 \wedge 5 \text{ V } 10 = ?$ $\quad$ (a) 2 (b) 8 (c) 10 (d) 19 (e) 200

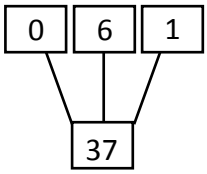
31. $\dfrac{20 \wedge 3}{24 \text{ V } 3}$ $\quad$ (a) $^{5}/_{6}$ (b) 3 (c) $4^{1}/_{2}$ (d) $4^{4}/_{5}$ (e) $7^{1}/_{2}$

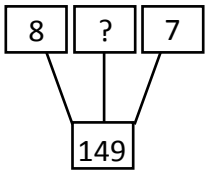
Sample K:

Hint: $2^2 + 4^2 + 6^2 = 56$

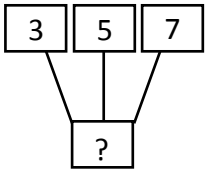






32. 

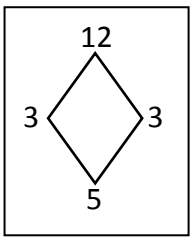
(a) 6
(b) 7
(c) 8
(d) 49
(e) 64

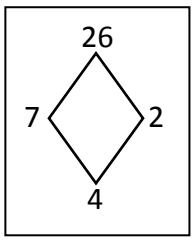
33. 

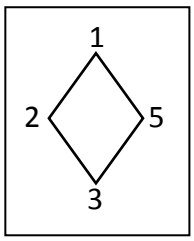
(a) 93
(b) 83
(c) 5
(d) 35
(e) 15

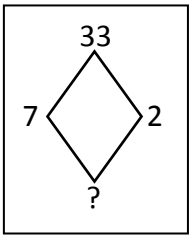
Sample L:

Hint: 3 x 5 = 12 + 3

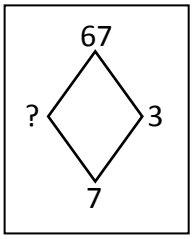




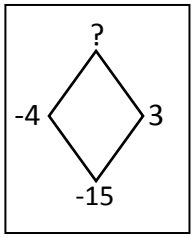


34. 

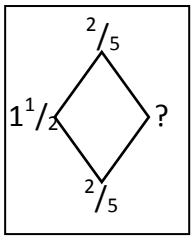
(a) 5
(b) 6
(c) 9
(d) 14
(e) 42

35. 

(a) 4
(b) 7
(c) 10
(d) 21
(e) 46

36. 

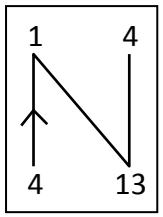
(a) -63
(b) -57
(c) -16
(d) 57
(e) 63

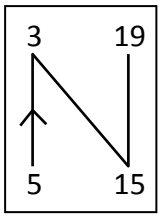
37. 

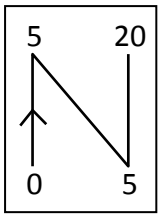
(a) $^{1}/_{5}$
(b) $^{2}/_{5}$
(c) $^{3}/_{5}$
(d) $^{4}/_{5}$
(e) $2^{3}/_{10}$

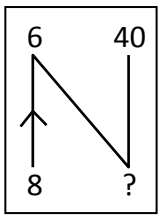
Sample M:

Hint: $4^2 + 1^2 - 13 = 4$

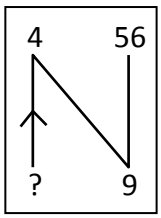




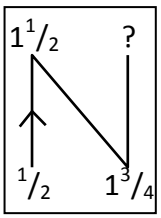


38. 

(a) 36
(b) 48
(c) 60
(d) 64
(e) 100

39. 

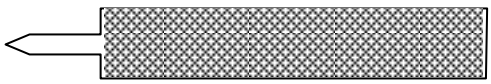
(a) 7
(b) 8
(c) 9
(d) 16
(e) 49

40. 

(a) $^{1}/_{4}$
(b) $^{3}/_{4}$
(c) $2^{1}/_{4}$
(d) $3^{3}/_{4}$
(e) $4^{1}/_{4}$

VOCATIONAL

41. The aircraft is to a pilot as the ship is to a/an ___ (a) astronaut (b) captain (c) cyclist (d) driver (e) programmer
42. The metal commonly used for producing cooking pots is ___ (a) aluminium (b) brass (c) copper (d) iron (e) zinc
43. The sense organ of touch is ____ (a) ear (b) eye (c) nose (d) skin (e) tongue
44. The hand tool in the diagram below represent a ___ (a) file (b) plier (c) screwdriver (d) spanner (e) vice



45. The part that provides access in and out of a building is called ____ (a) ceiling (b) door (c) lintel (d) roof (e) wall

46. What is the name of a person whose job is to join metal together using heat? (a) bricklayer (b) carpenter (c) electrician (d) mechanic (e) welder
47. Gimlet is used in electrical work to ____ (a) cut cables (b) draw wires (c) drive screws (d) make holes (e) twist cables
48. Which of the following is a good conductor of electricity? (a) copper (b) paper (c) plastic (d) rubber (e) wood
49. Which of the following parts of a car is responsible for cooling down the engine? (a) battery (b) plug (c) pump (d) radiator (e) shaft
50. Akara ball is a snack prepared using _____ method of cooking. (a) baking (b) boiling (c) frying (d) steaming (e) stewing

NATIONAL COMMON ENTRANCE EXAMINATION 2016

MATHEMATICS

1. Write CMLXXXII in Arabic numerals. (a) 832 (b) 982 (c) 1152 (d) 1182 (e) 1532
2. Write eight million, two hundred thousand and nine in figures. (a) 8000209 (b) 8002009 (c) 8020090 (d) 8200009 (e) 8200900
3. Change $7^1/_2$% to fraction in its lowest term. (a) ½ (b) $^3/_{20}$ (c) $^3/_{40}$ (d) $^1/_{20}$ (e) $^1/_{40}$
4. What is the square root of $2^1/_4$? (a) $^1/_8$ (b) ¼ (c) ½ (d) $1^1/_4$ (e) $1^1/_2$
5. Find the HCF of 9 and 27. (a) 3 (b) 6 (c) 9 (d) 18 (e) 27
6. If a = 8 and b = 6, what is the value of $a^2 - b^2$? (a) 15 (b) 20 (c) 24 (d) 28 (e) 30
7. Given that x = -2, what is the value of x^3 (a) -8 (b) -6 (c) -2 (d) 6 (e) 8
8. A woman bought 15 oranges for N150.00 and sold them at N12.00 each. What is her percentage profit? (a) 10 (b) 15 (c) 20 (d) 25 (e) 30
9. Determine the sum of the LCM and HCF of the following numbers: 8, 12 and 16. (a) 36 (b) 48 (c) 52 (d) 54 (e) 56
10. Given that a = 6, 6 = 7 and c = 4, what is the square root of 3a + 2b + c? (a) 4 (b) 5 (c) 6 (d) 7 (e) 8
11. Odiri bought fourteen loaves of bread of the same size for N1,260.00, how much will three loaves cost? (a) N60.00 (b) N90.00 (c) N120.00 (d) N150.00 (e) N270.00
12. The angles of a triangle are y + (y + 12) + (y + 18). Find the value of y. (a) 30 (b) 50 (c) 100 (d) 150 (e) 180
13. If $P^2 - 8 = 17$, which of the following is a possible value of P? (a) 4 (b) 5 (c) 6 (d) 7 (e) 8
14. Find the LCM of 3, 4 and 5. (a) 12 (b) 15 (c) 20 (d) 40 (e) 60
15. Simplify $^2/_3$ + ¼ of ($1^1/_2$ + ½) (a) $^{11}/_{12}$ (b) $1^1/_6$ (c) 1¼ (d) $1^1/_3$ (e) $1^5/_{12}$
16. Find the simple interest on N400.00 for 4 years at 6% per annum. (a) N16.00 (b) N24.00 (c) N96.00 (d) N120.00 (e) N160.00
17. Two men shared the cost of a business in the ratio 2 : 3. If the smaller share is N750.00, find the total cost of the business. (a) N1125.00 (b) N1500.00 (c) N1875.00 (d) N2250.00 (e) N3750.00

18. Change 200 kobo to naira. (a) N1.00 (b) N2.00 (c) N3.00 (d) N4.00 (e) N5.00
19. What is the perimeter of a square with side p cm? (a) $^{p}/_{4}$ cm (b) (4 – p) cm (c) 4p cm (d) $p^{2}/_{4}$ cm (e) p^{4}cm
20. If 130 = 7 + 20x + 3, find the value of x. (a) 4 (b) 5 (c) 6 (d) 7 (e) 10
21. If y^2 - x = 7, find the positive value of y when x = 9. (a) 3 (b) 4 (c) 8 (d) 12 (e) 16
22. Find the value of 2x if 4 – x = 3x. (a) -2 (b) -1 (c) 0 (d) 1 (e) 2
23. Aminu divides 39 by x and the result is 3. Find the value of x. (a) 117 (b) 89 (c) 68 (d) 42 (e) 13
24. Find the value of x if 3(x + 5) = -6. (a) -7 (b) -3 (c) 0 (d) 3 (e) 7
25. The sum of angles on a straight line is equal to (a) 90^{o} (b) 120^{o} (c) 180^{o} (d) 270^{o} (e) 360^{o}
26. A car travelled from Minna to Abuja covering 160km in 2 hours. Find its average speed. (a) 320km/h (b) 162km/h (c) 158km/h (d) 96km/h (e) 80km/h
27. If 2x – 8 = 0, find the value of x. (a) 0 (b) 1 (c) 2 (d) 4 (e) 8
28. Obi runs a distance of 400m in 40 seconds. What is his average speed? (a) 5 m/s (b) 10 m/s (c) 15 m/s (d) 20 m/s (e) 25m/s
29. How many kobo can you get in d naira? (a) 100/d (b) d/100 (c) d (d) 100 + d (e) 100d
30. Calculate the area of a parallelogram with a base of 10cm and a height of 7cm. (a) 70cm^2 (b) 35cm^2 (c) 20cm^2 (d) 17cm^2 (e) 3cm^2
31. The perimeter of a rectangle with a length of 10cm and breadth of 5cm is (a) 605cm (b) 275cm (c) 55cm (d) 30cm (e) 15cm
32. If an orange costs Nx, how much will y oranges cost? (a) N(x – y) (b) Nx/y (c) N(x + 1) (d) N(x + y) (e) Nxy
33. The sum of x and x + 1 is (a) x + 1 (b) x + 2 (c) 2x + 1 (d) 2x + 2 (e) x^2 + 1
34. If ¾ + 4 = 1, find the value of r. (a) 2/3 (b) ½ (c) 1/3 (d) ¼ (e) 1/6
35. Find the area of a circle with a radius of 7cm. (Take π = 22/7). (a) 1078cm^2 (b) 154cm^2 (c) 77cm^2 (d) 50cm^2 (e) 27cm^2
36. Given that 6d = 54, find the value of d. (a) 3 (b) 6 (c) 9 (d) 12 (e) 15
37. If 2y + 8 = 16, what is the value of y? (a) 4 (b) 6 (c) 8 (d) 12 (e) 16

38. Find the median of the following set of numbers: 3, 4, 6, 8, 9, 10. (a) 15 (b) 10 (c) 7 (d) 5 (e) 3
39. Find the mode of the following set of numbers; 4, 3, 2, 4, 6, 5, 3, 2, 4. (a) 5 (b) 4 (c) 3 (d) 2 (e) 1
40. The average of a given set of number is (a) mode (b) median (c) mean (d) frequency (e) tally

BASIC SCIENCE

41. The sense organ for tastes is (a) ear (b) mouth (c) nose (d) skin (e) tongue
42. The following are digestive organs except (a) large intestine (b) lung (c) mouth (d) small intestine (e) stomach
43. The vessels that carry blood from the body to the heart are (a) arteries (b) auricles (c) capillaries (d) veins (e) ventricles
44. The instrument for measuring volume is (a) beam balance (b) directional compass (c) kitchen scale (d) measuring cylinder (e) spring balance
45. The following are renewable sources of energy except (a) coal (b) sun (c) water (d) waves (e) wind
46. Which part of a flower produces pollen grains? (a) anther (b) ovary (c) petals (d) stigma (e) style
47. The movement of blood round the body is (a) circulation (b) digestion (c) excretion (d) reproduction (e) respiration
48. Which of these animals is an amphibian? (a) carmel (b) cat (c) lizard (d) sheep (e) toad
49. Ball and socket joint is found in the (a) ankle (b) elbow (c) fingers (d) hip (e) neck
50. Which class of food keeps the body warm? (a) carbohydrate (b) fats and oil (c) minerals (d) protein (e) vitamins

QUANTITATIVE

Below are series of problems that are based on quantitative reasoning. Before answering the questions, study the sample that precedes each set and then use it to tackle the problems in that set.

Sample A: [1] [1] [2] [6] [36] [42] [4] [16] [20]

Hint: 6 + 36 = 42

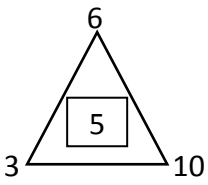
1. [?] [25] [30] (a) 55 (b) 45 (c) 25 (d) 15 (e) 5

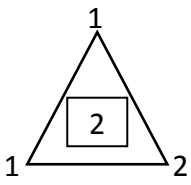
2. [9] [?] [90] (a) 27 (b) 36 (c) 45 (d) 64 (e) 81

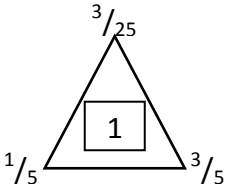
3. [3] [9] [?] (a) 6 (b) 12 (c) 18 (d) 27 (e) 36

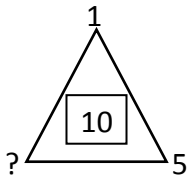
Sample B:

Hint: $\frac{10 \times 3}{6} = 5$

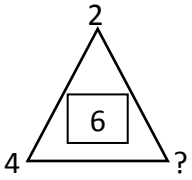




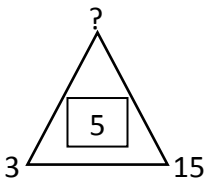


4. 

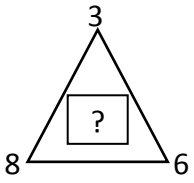
(a) 6
(b) 5
(c) 4
(d) 3
(e) 2

5. 

(a) 3
(b) 4
(c) 5
(d) 6
(e) 7

6. 

(a) 7
(b) 8
(c) 9
(d) 10
(e) 11

7. 

(a) 15
(b) 16
(c) 17
(d) 18
(e) 19

Sample C: $\frac{2}{4 \mid 1}$ $\frac{5}{25 \mid 1}$ $\frac{4}{8 \mid 2}$

Hint: $\sqrt{4 \times 1} = 2$

8. $\frac{10}{? \mid 100}$

(a) 1 (b) 3 (c) 10 (d) 100 (e) 1000

9. $\frac{?}{27 \mid 3}$

(a) 81 (b) 27 (c) 9 (d) 3 (e) 1

10. $\frac{1/2}{1/8 \mid ?}$

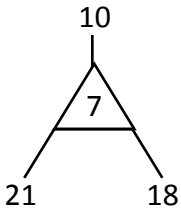
(a) 4 (b) 2 (c) 1 (d) ¼ (e) $^1/_{16}$

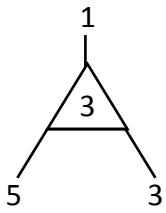
11. $\frac{1/4}{? \mid 1/4}$

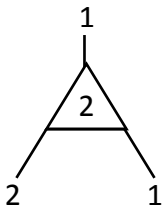
(a) 1 (b) ½ (c) ¼ (d) $^1/_8$ (e) $^1/_{16}$

Sample D:

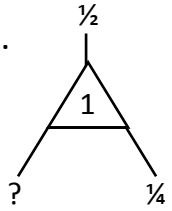
Hint: $\sqrt{21 + 18 + 10} = 7$





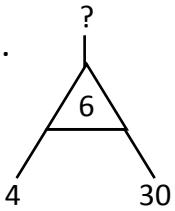


12.



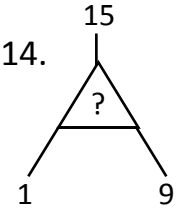
(a) 1
(b) ½
(c) ¼
(d) $^1/_8$
(e) 0

13.



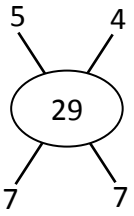
(a) 0
(b) 2
(c) 3
(d) 6
(e) 10

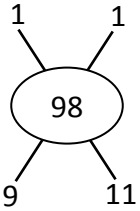
14.

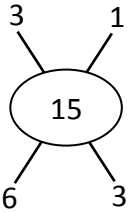


(a) 1
(b) 2
(c) 3
(d) 5
(e) 6

Sample:

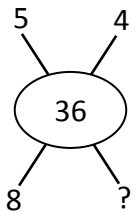






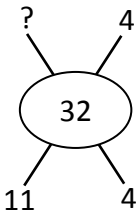
Hint: 7 x 7 – 5 x 4 = 29

15.



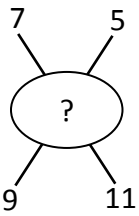
(a) 20
(b) 15
(c) 9
(d) 7
(e) 5

16.



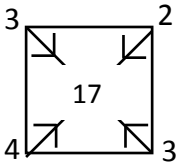
(a) 10
(b) 8
(c) 6
(d) 3
(e) 1

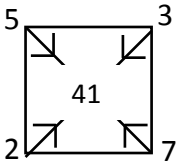
17.

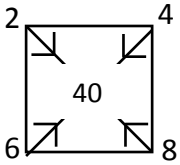


(a) 120
(b) 79
(c) 64
(d) 50
(e) 45

Sample F:

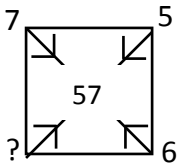






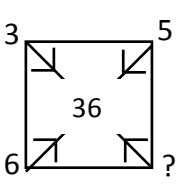
Hint: 3 x 3 + 4 x 2 = 17

18.



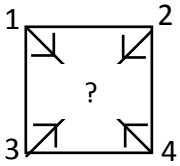
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

19.



(a) 2
(b) 3
(c) 1
(d) 0
(e) 4

20.

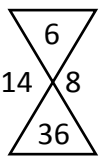


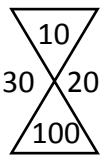
(a) 6
(b) 8
(c) 9
(d) 10
(e) 14

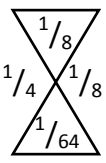
Sample G:

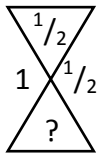
Hint: 14 – 8 = 6

$6^2 = 36$

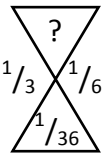




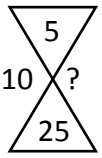


21. 

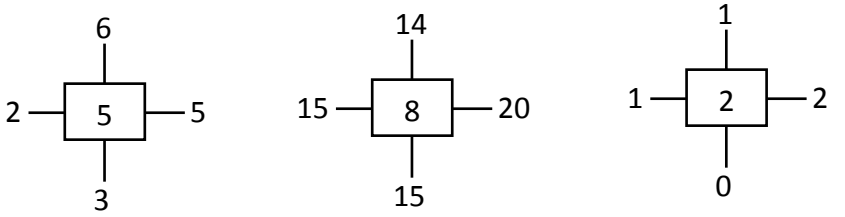
(a) 1/8
(b) ¼
(c) ½
(d) 1
(e) 1 1/2

22. 

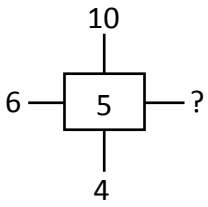
(a) 1/6
(b) 1/3
(c) ½
(d) 5/6
(e) 1

23. 

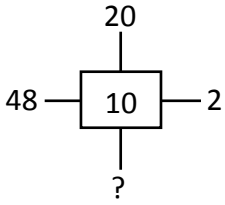
(a) 2
(b) 3
(c) 4
(d) 5
(e) 10

Sample H: 

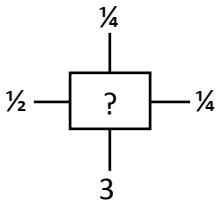
Hint: $\sqrt{2+5+6+3} = 4$

24. 

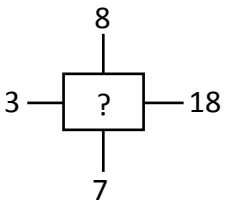
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

25. 

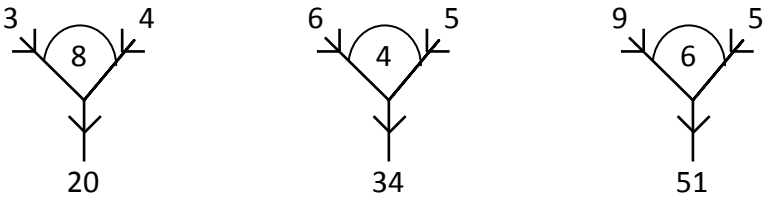
(a) 0
(b) 2
(c) 12
(d) 24
(e) 30

26. 

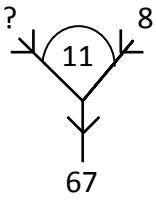
(a) ¼
(b) ½
(c) 1
(d) 2
(e) 4

27 

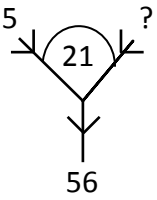
(a) 6
(b) 12
(c) 18
(d) 20
(e) 36

Sample I: 

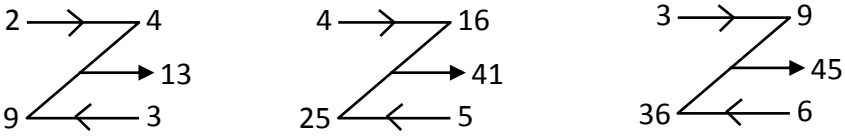
Hint: 3 x 4 + 8 = 20

28. 

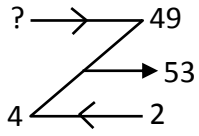
(a) 5
(b) 6
(c) 7
(d) 8
(e) 9

29. 

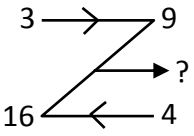
(a) 5
(b) 7
(c) 17
(d) 18
(e) 21

Sample J: 

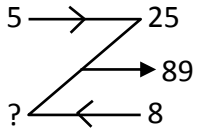
Hint: $2^2 = 4$ | $3^2 = 9$ | 9 + 4 = 13

30. 

(a) 6
(b) 7
(c) 8
(d) 9
(e) 10

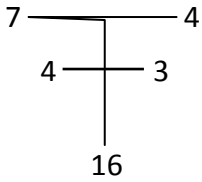
31. 

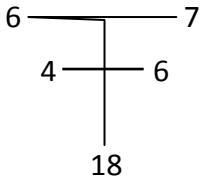
(a) 4
(b) 9
(c) 16
(d) 25
(e) 35

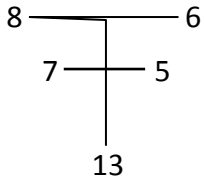
32. 

(a) 25
(b) 64
(c) 68
(d) 74
(e) 89

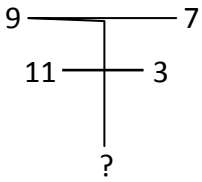
Sample K:



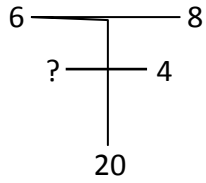




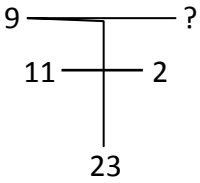
Hint: 7 x 4 – 4 x 3 = 16

33. 

(a) 13
(b) 28
(c) 30
(d) 33
(e) 43

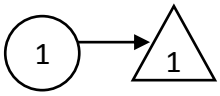
34. 

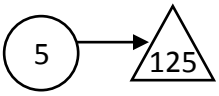
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

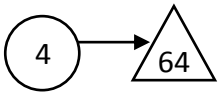
35. 

(a) 3
(b) 4
(c) 5
(d) 7
(e) 9

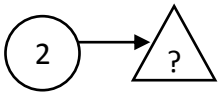
Sample L:



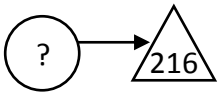




Hint: $5^3 = 125$

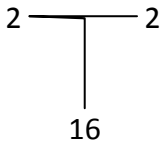
36. 

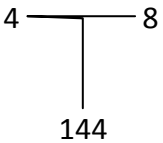
(a) 4 (b) 6 (c) 8 (d) 16 (e) 24

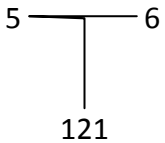
37. 

(a) 2 (b) 3 (c) 6 (d) 8 (e) 10

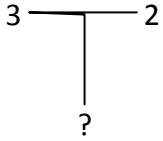
Sample M:



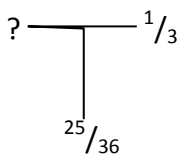




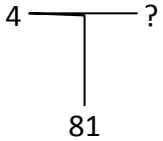
Hint: $(2 + 2)^2 = 16$

38. 

(a) 5
(b) 10
(c) 15
(d) 20
(e) 25

39. 

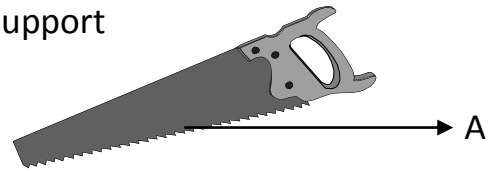
(a) $^1/_4$
(b) ½
(c) $^2/_3$
(d) $^4/_5$
(e) $^5/_6$

40. 

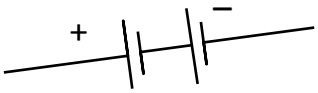
(a) 5
(b) 9
(c) 20
(d) 77
(e) 85

VOCATIONAL APTITUDE

41. Which of the following is not a tool used in electrical work? (a) anvil (b) hammer (c) plane (d) plier (e) screw driver
42. A professional that is responsible for the preparation of building plan is a/an (a) architect (b) cleck (c) engineer (d) foreman (e) surveyor
43. The part labeled A in the diagram below is (a) blade (b) file (c) frame (d) handle (e) support



44. When iron comes in direct contact with water it (a) bends (b) breaks (c) evaporates (d) melts (e) rusts
45. An instrument used for setting out the angles of building is a _____ square. (a) builder's (b) combination (c) set (d) tee (e) try
46. Which of these foods provides the body with fats? (a) beans (b) millet (c) rice (d) vegetable oil (e) yam
47. The symbol below represents (a) battery (b) cell (c) capacitor (d) resistor (e) transistor



48. Fertilizer is applied on the farm to _____ the soil nutrients. (a) decompose (b) degrade (c) harden (d) improve (e) purify
49. A blacksmith holds hot metals with a pair of ____ (a) clothes (b) gloves (c) scissors (d) tongs (e) vices
50. Which of these fibres is obtained from a sheep? (a) cotton (b) nylon (c) linen (d) silk (e) wool

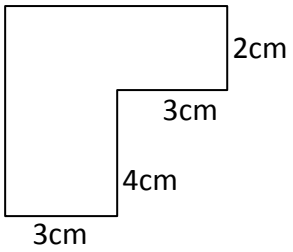
NATIONAL COMMON ENTRANCE EXAMINATION 2017

MATHEMATICS

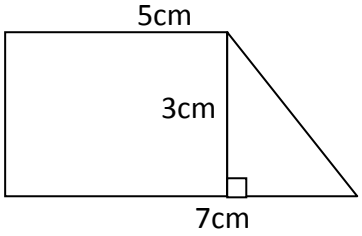
1. Convert 574 to Roman numerals. (a) DLXXVI (b) DLXXIV (c) DLXXIII (d) DLXIV (e) DXXIV
2. Correct 0.0579 to 2 significant figures. (a) 0.05 (b) 0.057 (c) 0.0579 (d) 0.058 (e) 0.6
3. Arrange $^{2}/_{3}$, $^{5}/_{6}$, ½ and ¼ in ascending order. (a) ¼, $^{5}/_{6}$, $^{2}/_{3}$, ½ (b) ¼, $^{2}/_{3}$, ½, $^{5}/_{6}$ (c) ½, $^{2}/_{3}$, ¼, $^{5}/_{6}$ (d) ¼, ½, $^{2}/_{3}$, $^{5}/_{6}$ (e) $^{2}/_{3}$, ¼, ½, $^{5}/_{6}$
4. Find the square root of $^{4}/_{9}$. (a) $^{3}/_{2}$ (b) $^{4}/_{3}$ (c) $^{2}/_{3}$ (d) $^{1}/_{3}$ (e) ¼
5. In a class, there are 20 girls and 30 boys. Find the ratio of boys to girls. (a) 6:4 (b) 4:5 (c) 3:2 (d) 2:3 (e) 1:6
6. Ade bought a pair of shoes for N1,000.00 and sold it for N800.00. What is his percentage loss? (a) 25 (b) 20 (c) 15 (d) 10 (e) 5
7. Express 0.75 as a fraction. (a) ¼ (b) $^{3}/_{8}$ (c) ½ (d) ¾ (e) $^{5}/_{4}$
8. Find the simple interest on N8000 for 4 years at 2% per annum. (a) N640.00 (b) N800.00 (c) N940.00 (d) N950.00 (e) N1200.00
9. A girl bought 3 sachets of detergent for N120.00. For how much would she buy 20 sachets? (a) N800.00 (b) N650.00 (c) N500.00 (d) N360.00 (e) N240.00
10. The sum of 16 and 20 is divided by the product of 6 and 2, find the result. (a) 1 (b) 3 (c) 5 (d) 7 (e) 8
11. $^{1}/_{5}$ is equivalent to: (a) 40% (b) 35% (c) 30% (d) 25% (e) 20%
12. If I spend $^{6}/_{11}$ of my money on books, what fraction of it will remain? (a) $^{2}/_{11}$ (b) $^{3}/_{11}$ (c) $^{4}/_{11}$ (d) $^{5}/_{11}$ (e) $^{6}/_{11}$
13. Find 80% of N20.00. (a) N18.00 (b) N16.00 (c) N14.00 (d) N12.00 (e) N10.00
14. Which of the following is not a perfect square? (a) 100 (b) 81 (c) 65 (d) 49 (e) 36
15. A gardener is paid N12,400.00 per month. Find his total annual salary. (a) N148,800.00 (b) N144,800.00 (c) N84,800.00 (d) N62,000.00 (e) N49,600.00
16. A can of coca-cola cost N120.00. How many cans can one but with N960.00? (a) 1 (b) 8 (c) 9 (d) 10 (e) 12
17. Chinedu earns N2,000.00 in 10 days. How much does he earn in 6 days if he earns equal amount daily? (a) N32,200.00 (b) N32,000.00 (c) N12,000.00 (d) N3,2000.00 (e) N1,200.00

18. One-fifth of a number is subtracted from four-fifth of the same number. If the result is 9, what is the number? (a) -15 (b) -9 (c) 3 (d) 9 (e) 15
19. A particular Local Government charges N1,000.00 monthly for each market stall. What is the total rent collected monthly for 240 stalls? (a) N2,400.00 (b) N8,600.00 (c) N8,900.00 (d) N24,00.00 (e) N240,000.00
20. Ese is 23 years old and her younger sister is 19 years old. What was the sum of their ages 13 years ago? (a) 13 years (b) 14 years (c) 15 years (d) 16 years (e) 17 years
21. Simplify: $^{1}/_{2} + {}^{3}/_{4} - {}^{2}/_{7} \times ({}^{1}/_{3} + 2)$ (a) $^{25}/_{12}$ (b) $^{17}/_{12}$ (c) $^{5}/_{12}$ (d) ¾ (e) $^{7}/_{12}$
22. Given that a = 7, b = 5 and c = 5, find the square root of 3a + 2b + c. (a) 25 (b) 15 (c) 10 (d) 9 (e) 6
23. If $4y^2 - 37 = 27$, what is the positive value of y? (a) 10 (b) 4 (c) 3 (d) 2 (e) 1
24. The area of a square is $9cm^2$, find the perimeter of the square. (a) 3cm (b) 6cm (c) 9cm (d) 12cm (e) 27cm
25. What is the perimeter of a rectangle with length $8^{1}/_{2}$cm and width $2^{1}/_{2}$cm? (a) 16cm (b) 18cm (c) 20cm (d) 22cm (e) 24cm
26. Given that 45 + 5t = 90, find the value of t. (a) 4 (b) 5 (c) 7 (d) 9 (e) 11
27. Calculate the circumference of a circle whose diameter is 28cm. (Take $\pi = {}^{22}/_{7}$). (a) 88cm (b) 64cm (c) 56cm (d) 44cm (e) 30cm
28. Find the value of x in the equation 4x – 2 = 2x + 10 (a) 2 (b) 4 (c) 6 .d .8 (e) 10
29. If x = 2, y = 4 and z =3, find the value of $\frac{3y+2z}{x+y}$. (a) 3 (b) 6 (c) 9 (d) 12 (e) 15
30. Find the perimeter of a square whose length is 5cm. (a) 10cm (b) 15cm (c) 20cm (d) 25cm (e) 30cm
31. How many vertices does a cuboid have? (a) 4 (b) 5 (c) 6 (d) 7 (e) 8
32. An equilateral triangle has how many lines of symmetry? (a) 0 (b) 1 (c) 2 (d) 3 (e) 4
33. The volume of a cylinder whose radius is 7cm is $1540cm^3$. Find the height. (Take $\pi = {}^{22}/_{7}$). (a) 6cm (b) 9cm (c) 10cm (d) 13cm (e) 15cm
34. If $3x^2 + 4 = 13$, find the value of $x^2 - 8$. (a) 11 (b) 5 (c) 4 (d) -5 (e) 11

35. Find the perimeter of the figure below. (a) 24 (b) 18 (c) 15 (d) 12 (e) 9



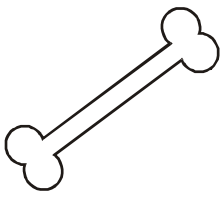
36. Five years ago, a girl was six years old. How old will she be in four years time? (a) 9 years (b) 10 years (c) 11 years (d) 13 years (e) 15 years
37. The area of a rectangular shape whose length is 10cm is 20cm². Find its breadth. (a) 5cm (b) 4cm (c) 3cm (d) 2cm (e) 1cm
38. Calculate the area of the shape in the figure below. (a) 38cm² (b) 28cm² (c) 18cm² (d) 15cm² (e) 9cm²



39. Find the mode of the following numbers: 3, 5, 4, 7, 6, 5, 5, 6, 6, 5. (a) 3 (b) 4 (c) 5 (d) 6 (e) 7
40. Find the average of the following numbers: 10, 15, 10, 13. (a) 10 (b) 12 (c) 14 (d) 16 (e) 18

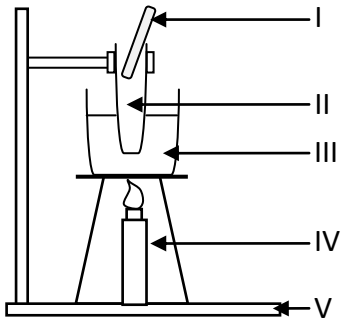
GENERAL SCIENCE

41. The bone represented by the diagram below is _____ (a) femur (b) fibula (c) humerus (d) radius (e) ulna



42. The union of the male and female gametes of plant is called _____ (a) conjugation (b) fertilization (c) fusion (d) germination (e) pollination
43. An unripe lemon has a sour taste because it contains ____ (a) acid (b) alkaline (c) base (d) salt (e) sugar

44. The force that opposes movement when two surfaces are in contact is called ___ (a) electrical (b) friction (c) gravitational (d) magnetic (e) tension
45. Which of the following is a function of the lips? (a) detect taste of food (b) prevent food from pouring out of the mouth (c) soften food in the mouth (d) support movement of food in the mouth (e) support swallowing of food
46. Bile is a waste product from the _____ (a) heart (b) kidney (c) liver (d) lung (e) skin
47. A scientist who studies space and objects is called a/an ____ (a) astronaut (b) astronomer (c) chemist (d) meteorologist (e) physicist
48. Steam bath is the diagram below is represented by __ (a) I (b) II (c) III (d) IV (e) V

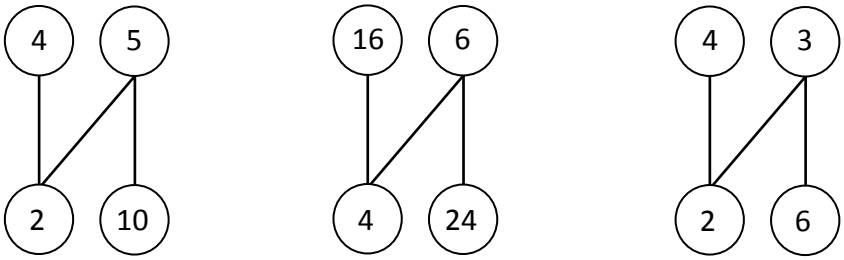


49. The scrotal sac protects the ____ (a) ovary (b) testes (c) urethra (d) uterus (e) vagina
50. Which of the following is called the earth satellite? (a) Jupiter (b) Mars (c) Mercury (d) Moon (e) Venus

QUANTITATIVE APTITUDE

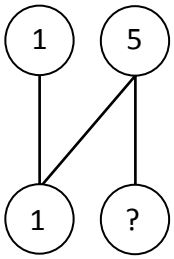
The series of problems below are based on quantitative reasoning. Before answering the questions, study the sample that precedes each set and use it to solve the problems in that set.

Sample A:



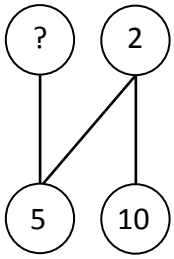
Hint: $\sqrt{4}$ = 2 | 2 x 5 = 10

1.



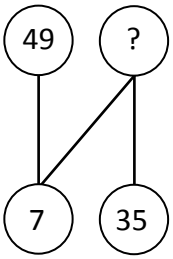
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

2.



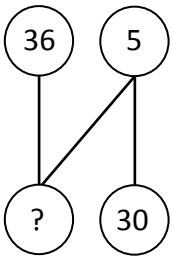
(a) 10
(b) 20
(c) 25
(d) 40
(e) 50

3.



(a) 5
(b) 6
(c) 7
(d) 8
(e) 9

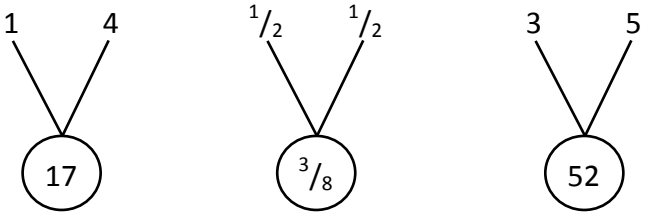
4.



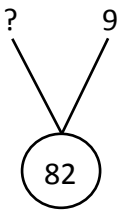
(a) 3
(b) 6
(c) 9
(d) 12
(e) 15

Sample B:

Hint: $3^3 + 5^2 = 25$

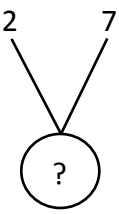


5.



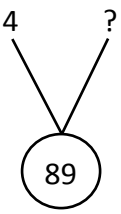
(a) 7
(b) 5
(c) 3
(d) 2
(e) 1

6.



(a) 57
(b) 47
(c) 37
(d) 27
(e) 14

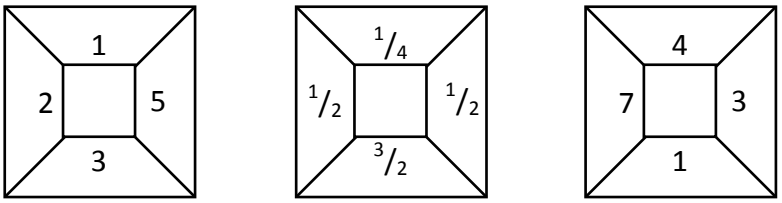
7.



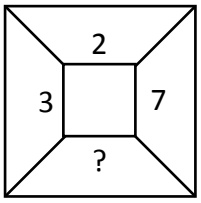
(a) 15
(b) 10
(c) 5
(d) 3
(e) 1

Sample C:

Hint: 2 x 3 = 5 + 1

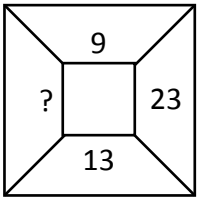


8.



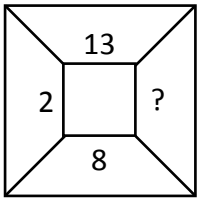
(a) 9
(b) 6
(c) 5
(d) 3
(e) 1

9.



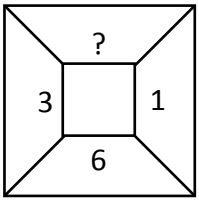
(a) 10
(b) 9
(c) 6
(d) 5
(e) 4

10.



(a) 15
(b) 10
(c) 9
(d) 6
(e) 3

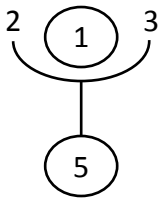
11.

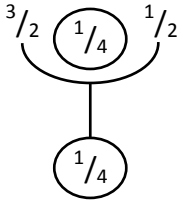


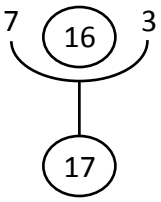
(a) 18
(b) 17
(c) 15
(d) 10
(e) 9

Sample D:

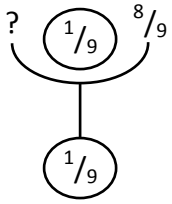
Hint: 7 x 3 - $\sqrt{16}$ = 17





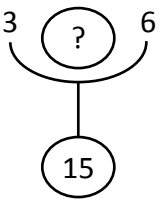


12.



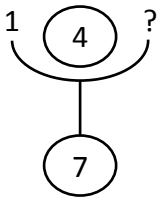
(a) 1/8
(b) 1/2
(c) 9/16
(d) 3/4
(e) 8/9

13.



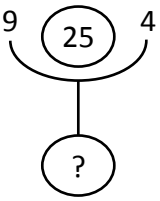
(a) 12
(b) 9
(c) 7
(d) 5
(e) 3

14.



(a) 9
(b) 7
(c) 5
(d) 3
(e) 1

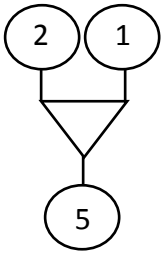
15.

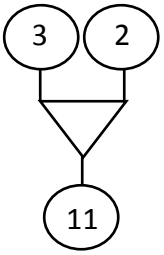


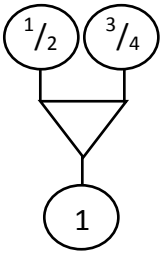
(a) 36
(b) 31
(c) 28
(d) 16
(e) 15

Sample E:

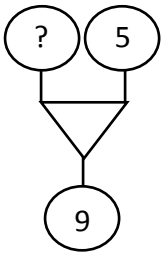
Hint: $2^2 + 1 = 5$





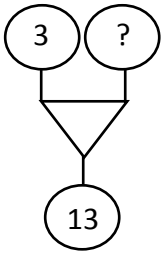


16.



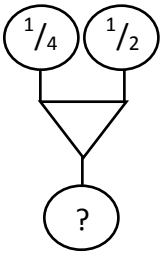
(a) 4
(b) 3
(c) 2
(d) 1
(e) 0

17.



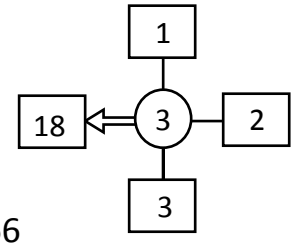
(a) 10
(b) 6
(c) 5
(d) 4
(e) 2

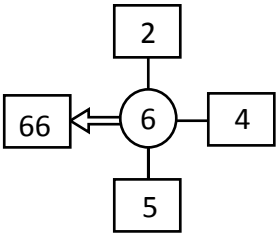
18.

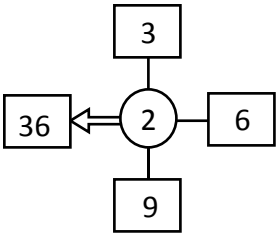


(a) 1/8
(b) 1/2
(c) 9/16
(d) 3/4
(e) 8/9

Sample F:

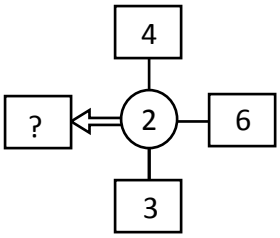






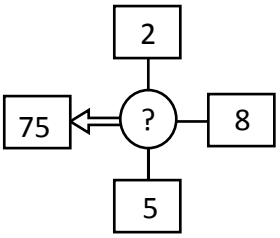
Hint: 6(2 + 4 + 5) =66

19.



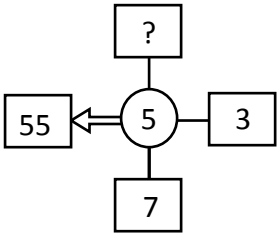
(a) 42
(b) 36
(c) 26
(d) 21
(e) 16

20.



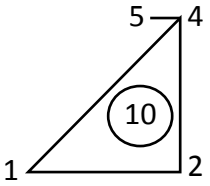
(a) 3
(b) 5
(c) 17
(d) 11
(e) 13

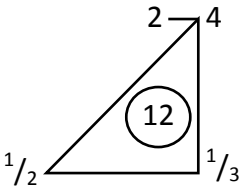
21.

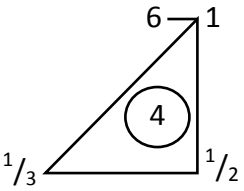


(a) 0
(b) 1
(c) 2
(d) 3
(e) 4

Sample G:

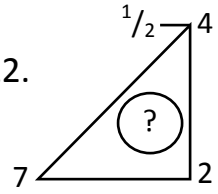






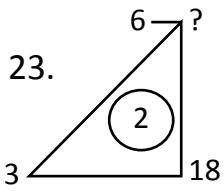
Hint: 5 x 4 ÷ $^{2}/_{1}$ = 10

22.



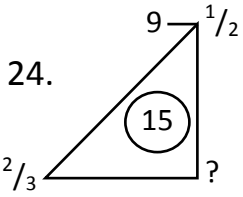
(a) 9
(b) 7
(c) 5
(d) 4
(e) 3

23.



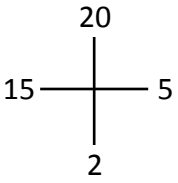
(a) 2
(b) 6
(c) 9
(d) 15
(e) 21

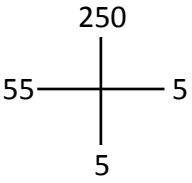
24.

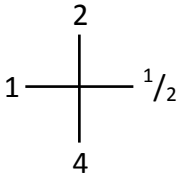


(a) $^{1}/_{4}$
(b) $^{1}/_{5}$
(c) $^{2}/_{5}$
(d) $^{2}/_{3}$
(e) $^{3}/_{2}$

Sample H:

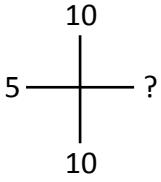






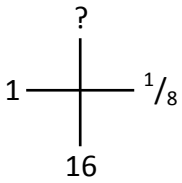
Hint: 2(15 – 5) = 20

25.



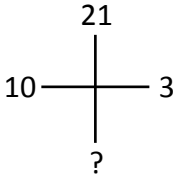
(a) 0
(b) 1
(c) 2
(d) 3
(e) 4

26.



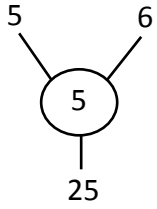
(a) 18
(b) 16
(c) 14
(d) 12
(e) 10

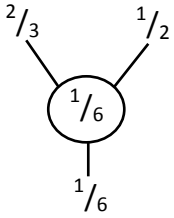
27.

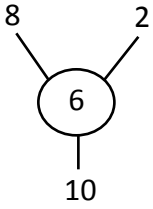


(a) 3
(b) 7
(c) 11
(d) 13
(e) 15

Sample I:

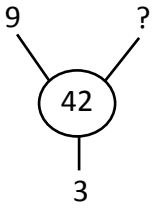






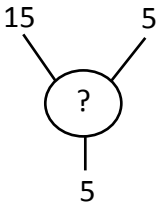
Hint: (8 x 2) – 10 = 6

28.



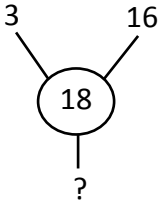
(a) 3
(b) 5
(c) 10
(d) 21
(e) 27

29.



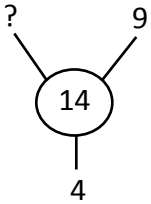
(a) 80
(b) 75
(c) 70
(d) 65
(e) 45

30.



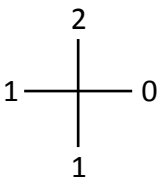
(a) 16
(b) 20
(c) 24
(d) 38
(e) 54

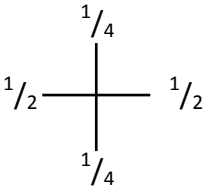
31.

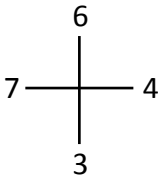


(a) 0
(b) 1
(c) 2
(d) 3
(e) 4

Sample J:

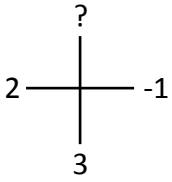






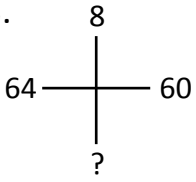
Hint: 7 – 4 = 6 – 3

32.



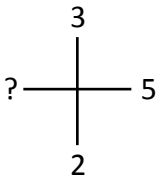
(a) 6
(b) 5
(c) 4
(d) 3
(e) 2

33.



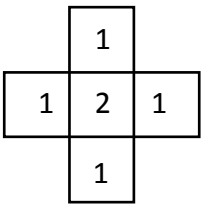
(a) 32
(b) 16
(c) 9
(d) 4
(e) 3

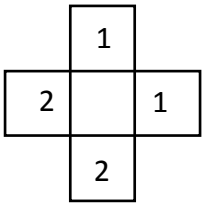
34.

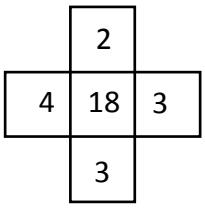


(a) 15
(b) 10
(c) 6
(d) 5
(e) 1

Sample K:

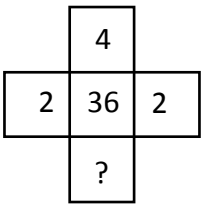






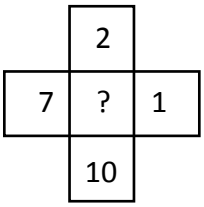
Hint: (4 x 3) + (2 x 3) = 18

35.



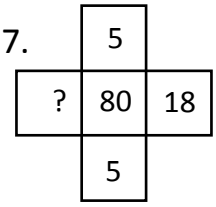
(a) 2
(b) 4
(c) 6
(d) 8
(e) 14

36.



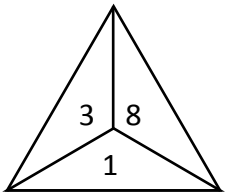
(a) 72
(b) 64
(c) 56
(d) 32
(e) 27

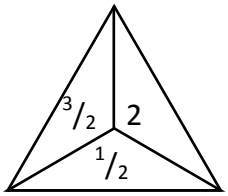
37.

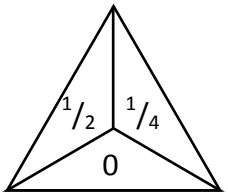


(a) 4
(b) 8
(c) 11
(d) 13
(e) 19

Sample L:

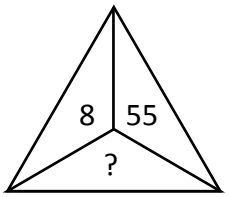






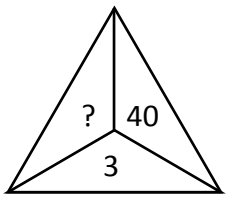
Hint: $\left(\frac{3}{2}\right)^2 - 2 = \sqrt{\frac{1}{4}}$ | $3^2 - 8 = \sqrt{1}$

38.



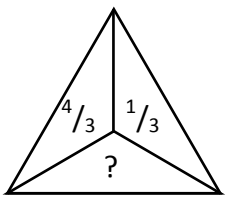
(a) 7
(b) 5
(c) 3
(d) 1
(e) 0

39.



(a) 9
(b) 7
(c) 5
(d) 3
(e) 1

40.

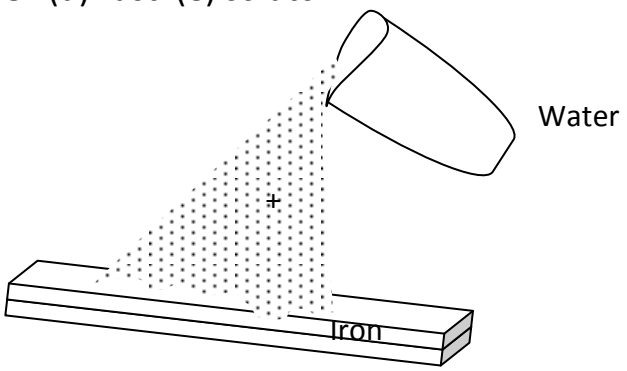


(a) $^5/_3$
(b) $^3/_2$
(c) $^4/_3$
(d) $^{10}/_9$
(e) $^4/_9$

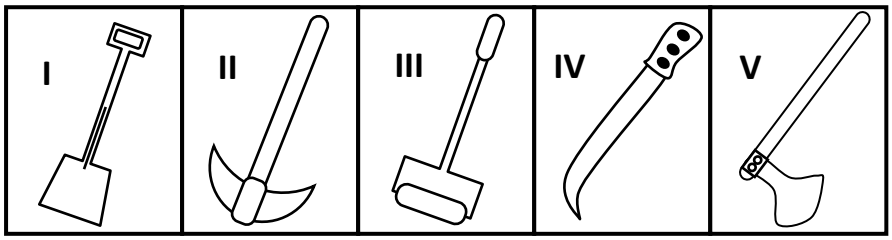
VOCATIONAL APTITUDE

41. Which of the following tools does not belong to the group? (a) hammer (b) pliers (c) screwdriver (d) tester (e) tongs

42. What will happen to the metal in the diagram below after sometime? It will (a) bend (b) melt (c) peel (d) rust (e) scratch



43. Which of the tools represented by the diagrams below is odd? (a) I (b) II (c) III (d) IV (e) V



44. | Adhesive | + | Glass | + | Cloth | = |

(a) abrasive (b) glue (c) log (d) plywood (e) polish

45. The following are processes in timber production:

I. Marking II. Felling III. Logging IV. Conversion

Which of the following sequences is correct? (a) I, II, III and IV (b) II, I, III and IV (c) III, II, I and IV (d) IV, I, II and III (e) II, III, IV and I

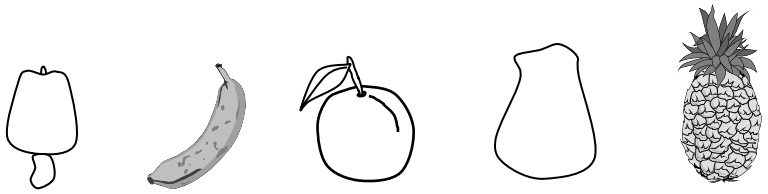
46. Complete the box in the diagram below from the options lettered A – I. (a) aluminum (b) copper (c) iron (d) sulphur (e) zinc

	+	Carbon	=	Steel

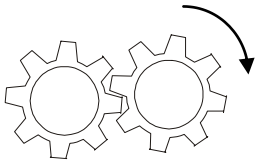
47. | Sand | + | Water | + | Gravel | + | Cement | = |

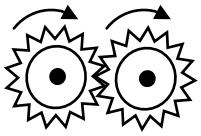
(a) block (b) concrete (c) laterite (d) mortar (e) plaster

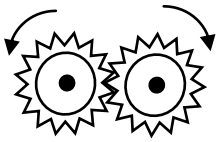
48. Which of the following fruits are juicy? (a) I, II and III (b) I, II and V (c) II, III and V (d) II, IV and V (e) III, IV and V

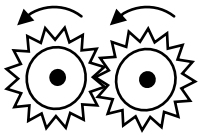


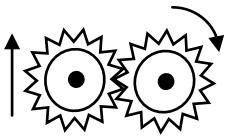
49. Which of these options indicates the right direction of both gears when gear A drives gear B as shown below?

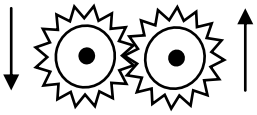


(a) 

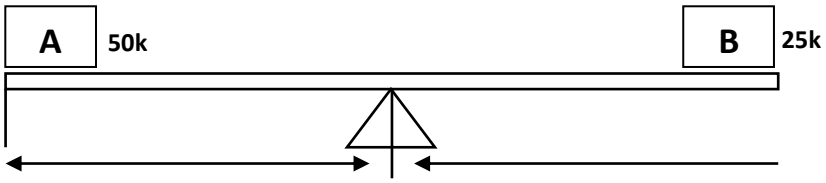
(b) 

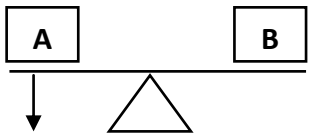
(c) 

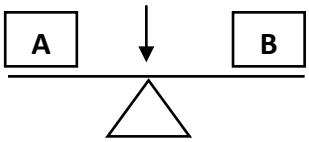
(d) 

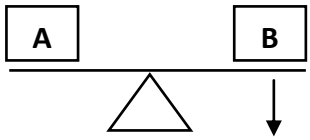
(e) 

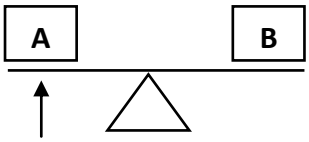
50. Which of the options explains the effect of load A on the diagram below as shown by the arrow?

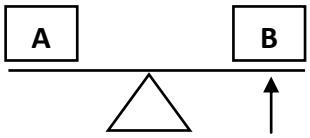


(a) 

(b) 

(c) 

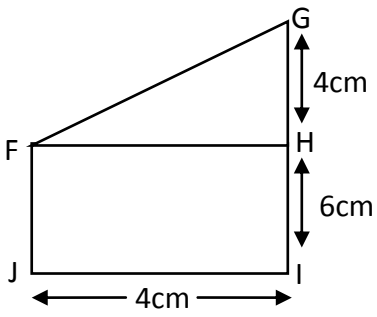
(d) 

(e) 

STATE COMMON ENTRANCE EXAMINATION QUESTIONS 2007 - 2017

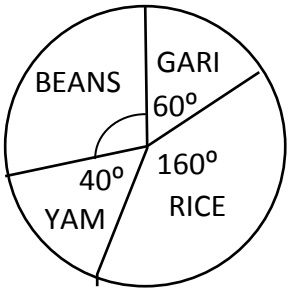
STATE COMMON ENTRANCE EXAMINATION (2007)

Instruction: *Attempt all questions.*

1. Simplify: 1628 – 520 + 809 (a) 0907 (b) 1917 (c) 1957 (d) 2917 (e) 2957
2. A football match started at 11:45am. And ended at 1:15pm. How long did the match start? (a) 2hrs 15mins (b) 2 hrs 5mins (c) 1hr 45mins (d) 1hr 30mins (e) 1hr 15mins
3. If a big bag of rice weighs 169kg, find the weight of 568 bags. (a) 99,952 (b) 99,998 (c) 95,992 (d) 95,982 (e) 95,900
4. In a class of 32 boys, only 16 of them passed an Examination and 4 were absent. How many failed? (a) 08 (b) 12 (c) 16 (d) 20 (e) 36
5. The place value of 4 in the number 4,987 is _____ (a) 4 (b) 40 (c) 400 (d) 4,000 (e) 40,000
6. If a video cassette tape makes 2,040 revolutions in 1 hour, how many revolution(s) will it make per minute? (a) 30 revolutions (b) 31 revolutions (c) 33 revolutions (d) 34 revolutions (e) 35 revolutions
7. Given that the volume of a rectangular tank is 400 cubic meters, the length is 10m and the breadth is 8m, find the height of the tank. (a) 1m (b) 4m (c) 5m (d) 8m (e) 10m
8. The probability of getting a 5 if a die is tossed once is ____ (a) 1 (b) $^{2}/_{5}$ (c) $^{1}/_{3}$ (d) $^{1}/_{5}$ (e) $^{1}/_{6}$
9. If $x + y + t = 180^{o}$ and $x + y = 70^{o}$, therefore t = _____ (a) 180^{o} (b) 150^{o} (c) 120^{o} (d) 110^{o} (e) 55^{o}
10. _____ is the mean of the scores: 1, 2, 3, 4 and 5 arranged in ascending order. (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
11. A school bag contains 12 biros of which 5 are blue, 4 are red and 3 are green. The probability of picking a red biro at random from the bag is (a) $^{1}/_{12}$ (b) ½ (c) $^{5}/_{12}$ (d) $^{3}/_{8}$ (e) ¾
12. 

The area of the figure FGHIJ above is _____ (a) 20cm² (b) 24cm² (c) 32cm² (d) 40cm² (e) 44cm²

13. Tolu and Chuks earn N52.00 (NGN) in the ratio of their ages. If Tolu's share was N20.00 only, find the ratio of their ages. (a) 5:8 (b) 5:13 (c) 8:13 (d) 13:5 (e) 13:8
14. The difference between the value of nine (9) and the value of four (4) in the number 6,924,872 is not less than ____ (a) 4,000 (b) 896,000 (c) 900,000 (d) 924,872 (e) 920,000



The pie chart above shows the type of foods eaten by 480 pupils in boarding school (Primary). Study the figure carefully and answer questions 15 and 16.

15. _____ is the size of the angle representing beans. (a) 260° (b) 160° (c) 140° (d) 100° (e) 60°
16. In the figure above approximately _____ pupils ate Gari. (a) 260 (b) 160 (c) 120 (d) 100 (e) 80
17. Solve $\frac{p-q}{r}$ where p = 13, q = 3 and 4 = 5. (a) 13 (b) 10 (c) 5 (d) 4 (e) 2
18. N200,384 is the same as _____ express in words. (a) Two hundred thousand, three hundred and eight-four naira only (b) Two hundred thousand, three eight-four naira only (c) Twenty thousand, three hundred and eight-four naira only (d) Twenty-three thousand and eight-four naira only (e) Two hundred and three thousand and eight-four naira only
19. The lowest common multiples (L.C.M) of 12, 24, 8 and 16 is _____ (a) 60 (b) 48 (c) 36 (d) 24 (e) 16
20. A standard newspaper measuring 40cm by 29cm was put on a table of 43cm by 31cm, what is the area of the table left uncovered by the newspaper? (a) 2,493cm² (b) 1,333cm² (c) 1,160cm² (d) 173cm² (e) 6cm²

21. In a particular class of a school (Primary); if only one pupil is to be selected as a Prefect out of 3 boys and 3 girls, which includes John, what is the probability that it would be him? (a) 6 (b) 1 (c) ½ (d) $^1/_6$ (e) 0

22. What is the median age of the following ages (in years) of pupils in Primary VI of a particular school in Lagos State? 10, 12, 11, 10, 13, 12, 10, 11, 13, 12 and 14. (a) 10 (b) 11 (c) 12 (d) 13 (e) 14

23. What is the age range of the pupils in question 22 above? (a) 4 years (b) 3 years (c) 2 years (d) 1 year (e) 0 years

24. _____ is the value of 0.08, 0.465, 8.145 and 0.34 added together. (a) 9030.0 (b) 903.3 (c) 903.0 (d) 90.3 (e) 9.03

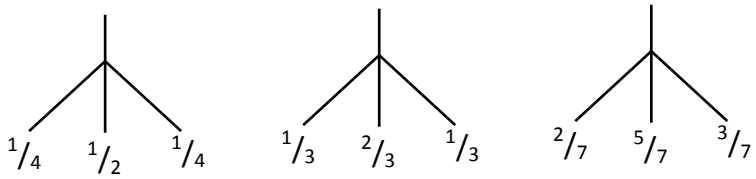
25. What is the missing number represented by xxxx below?

$$\begin{array}{r} x\ x\ x\ x \\ +\ 6\ 7\ 8\ 3 \\ \hline 1\ 0,0\ 0\ 0 \end{array}$$

(a) 4,227 (b) 4,117 (c) 3,227 (d) 3,217 (e) 3,127

QUANTITATIVE APTITUDE

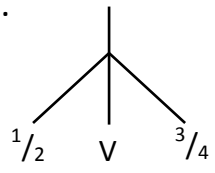
Sample A:



Study the samples in A above carefully and use it to answer questions 1 – 5.

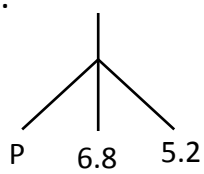
Hint: ¼ + ¼ = ½

1.



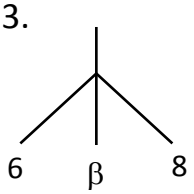
(a) $^1/_4$
(b) $^3/_4$
(c) $^5/_4$
(d) $^7/_4$
(e) $^9/_4$

2.



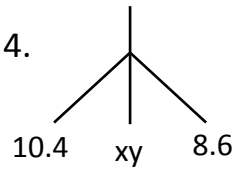
(a) 12.0
(b) 11.0
(c) 10.0
(d) 2.6
(e) 1.6

3.



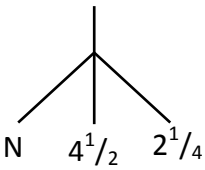
(a) 2
(b) 6
(c) 8
(d) 14
(e) 16

4.



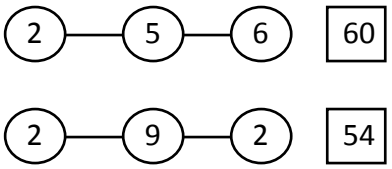
(a) 19.0
(b) 18.0
(c) 3.8
(d) 2.8
(e) 1.8

5.

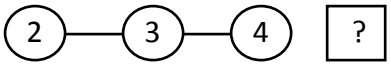


(a) $6^3/_4$
(b) $6^1/_4$
(c) $3^1/_4$
(d) $2^2/_4$
(e) $2^1/_4$

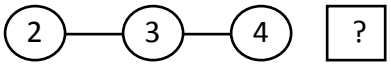
Sample B:



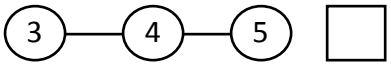
Use the samples B above to answer questions 6 – 10. **Hint:** 2 x 5 x 6 = 60

6. 

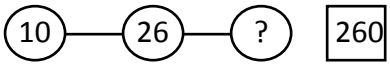
(a) 5 (b) 7 (c) 9 (d) 21 (e) 24

7. 

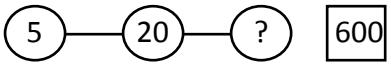
(a) 16 (b) 32 (c) 64 (d) 128 (e) 192

8. 

(a) 60 (b) 50 (c) 40 (d) 30 (e) 20

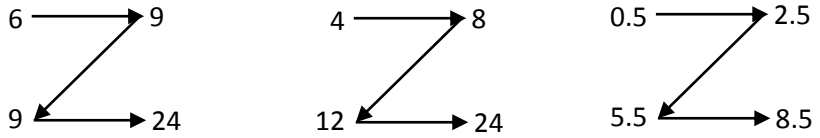
9. 

(a) $^1/_2$ (b) 1 (c) 2 (d) 3 (e) 4

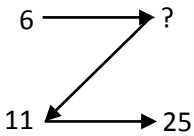
10. 

(a) 25 (b) 8 (c) 7 (d) 6 (e) 5

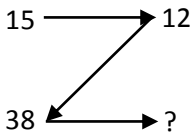
Sample C:



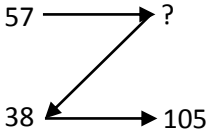
Use the sample C above to answer questions 11 – 15. **Hint:** 4 + 8 + 12 = 24

11. 

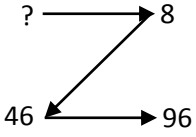
(a) 16
(b) 10
(c) 8
(d) 6
(e) 4

12. 

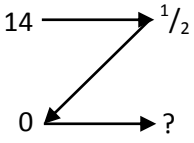
(a) 70
(b) 65
(c) 55
(d) 50
(e) 45

13. 

(a) 5
(b) 10
(c) 15
(d) 20
(e) 25

14. 

(a) 24
(b) 34
(c) 42
(d) 43
(e) 46

15. 

(a) $13^1/_2$
(b) 14
(c) $14^1/_2$
(d) 15
(e) $15^1/_2$

Sample D:

The number 0 1 2 3 4 5 6 7 8 9 is Represented by the word IMPORTANCE

Use the Sample D to answer questions 16 – 20.

16. Which number represents the word "TARRACE"? (a) 5,499,876 (b) 5,644,689 (c) 5,674,689 (d) 5,744,689 (e) 5,844,689

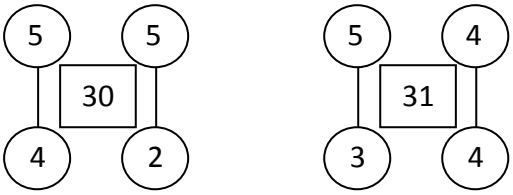
17. The number 2 3 2 9 represents ____ (a) ROPE (b) PIPE (c) POPE (d) PIPE (e) PEAR

18. Which number represents the word “REPENT”? (a) 492,675 (b) 492,975 (c) 493,675 (d) 941,675 (e) 942,075

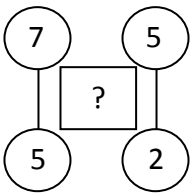
19. Which word does 54,612 represent? (a) TRIP (b) TREAT (c) TRANCE (d) TRAMP (e) TRAIN

20. The word ‘CREATOR’ represents the number _____ (a) 8,496,537 (b) 8,496,534 (c) 8,496,530 (d) 8,464,537 (e) 4,869,537

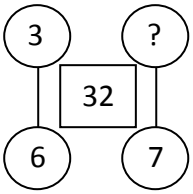
Sample E:



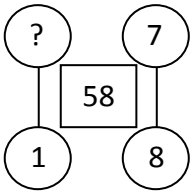
Use the samples E above to answer questions 21 – 25. **Hint:** (5 x 4) + (5 x 2) = 30

21. 

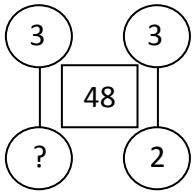
(a) 68
(b) 55
(c) 45
(d) 39
(e) 14

22. 

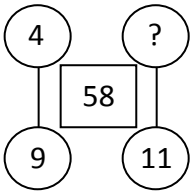
(a) 10
(b) 7
(c) 6
(d) 3
(e) 2

23. 

(a) 1
(b) 2
(c) 8
(d) 9
(e) 15

24. 

(a) 25
(b) 21
(c) 16
(d) 14
(e) 3

25. 

(a) 18
(b) 15
(c) 13
(d) 12
(e) 2

PRIMARY SCIENCE

1. _____ of the moon takes place when rays of light from the sun is blocked by the earth. (a) cell (b) eclipse (c) equator (d) orbits (e) planets

2. AIDS can be contacted through _____ intercourse. (a) eating together with an infected person (b) kissing (c) sexual (d) the use of towel of an infected person (e) touching an infected person

3. Harmful substances (like offensive gases, vehicle pipe exhausts, etc) around us cause ____ (a) carbonation (b) chemical odour (c) colouration (d) gases (e) pollution

4. _____ is when a farmland is watered to provide water for plants. (a) crop rotation (b) irrigation (c) hydro synthesis (d) photosynthesis (e) welling
5. A medical doctor who specializes in the caring for the teeth is referred to as ____ (a) dentist (b) doctor (c) nurse (d) ophthalmologist (e) surgeon
6. The following are mineral EXCEPT (a) coal (b) crude oil (c) iron-ore (d) yam (e) zinc
7. A meal which contains all classes of food is referred to as (a) balanced diet (b) balance food (c) balanced meal (d) fresh diet (e) unbalanced diet
8. _____ is the covering of surface of soil or heaps or ridges with dry leaves or dry grasses during the dry season. (a) oxygen (b) nitrogen (c) mulching (d) friction (e) erosion
9. The two end of a laboratory magnet are _____ (a) south and north-east poles (b) north and west poles (c) north and south poles (d) east and west poles (e) east and south poles
10. The wearing/washing away of the ……..

STATE COMMON ENTRANCE EXAMINATION (2008)

Instruction: *Attempt all questions.*

1. If r = 4, t = 1 and s = 2, what is the value of $\frac{4r-t+s}{2}$ (a) 4.5 (b) 8.5 (c) 9 (d) 19 (e) 18

2. Simplify $\frac{5\frac{1}{4}\div 1\frac{3}{4}}{3\frac{3}{4}}$ (a) $2^{9}/_{20}$ (b) $1^{1}/_{4}$ (c) $^{4}/_{5}$ (d) $1^{1}/_{20}$ (e) $3^{1}/_{3}$

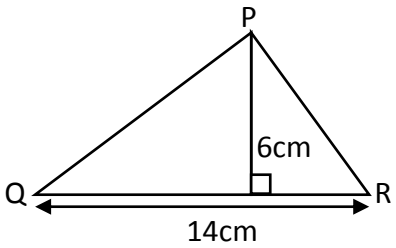
3. What is the simple interest of N1,200 loan for 3 years at 4% per annum? (a) N144.00 (b) N120.00 (c) N100.00 (d) N12.00 (e) N16.00

4. Convert $^{7}/_{8}$ to decimals. (a) 0.275 (b) 0.825 (c) 0.875 (d) 0.865 (e) 0.375

5. What is the circumference of a circle given that the radius is 14.21km? (Take $\pi = {}^{22}/_{7}$) (a) 982.52km (b) 32km (c) 983.20km (d) 89.32km (e) 178.64km

6. Which one of the following options A to E is the range of 0, 2, 4, 5, 3 and 8? (a) 6 (b) 5 (c) 4 (d) 8 (e) 7

7. A man spent his monthly salary on four things in the ratio 2:2:3:5, if he spent N120 on the least, how much is his month salary? (a) N720.00 (b) N880.00 (c) N1280.00 (d) N1180.00 (e) N680.00

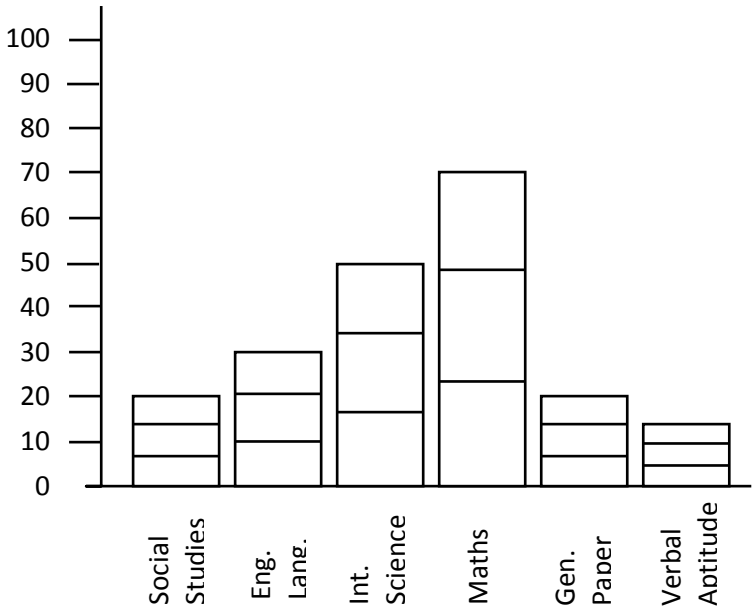
8. 

   Calculate the area the triangle PQR (fig. i) as given

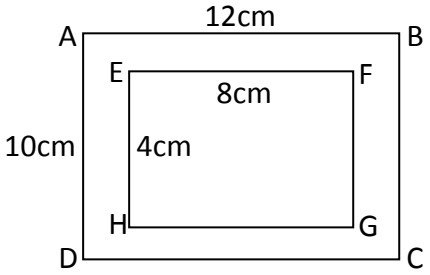
   (a) 21cm² (b) 84cm² (c) 12cm² (d) 20cm² (e) 42cm²

9. What is the mean of the following series: 7, 8, 5, 0, 3, 2, 5? (a) 4.52 (b) 4,30 (c) 4.28 (d) 4.21 (e) 5.01

   The figure below represents the performance of a student in six subjects. Use the figure to answer questions 10 and 11.



10. Find the average mark scored in English, Integrated Science and Mathematics. (a) 170 marks (b) 25 marks (c) 180 marks (d) 100 marks (e) 50 marks
11. Find the total marks scored in all six subjects. (a) 180 marks (b) 200 marks (c) 280marks (d) 360 marks (e) 210 marks
12. Calculate the perimeter of a square whose area is given as 225m² (a) 25m (b) 30m (c) 20m (d) 60m (e) 15m
13. Olu's mother bought a full bag of gari for N4,000 only and sold for N4,200.00. What was her percentage profit? (a) 20% (b) 4% (c) 25% (d) 4% (e) 5%



14. ABCD is made up of the area planted with grasses. The area EFGH was left without grasses. Find the area of the portion without grasses. (a) 24cm² (b) 32cm² (c) 120cm² (d) 120cm² (e) 22cm²
15. What is the missing number?

$$\begin{array}{r} 6\,7\,8\,3 \\ +\ \underline{x\ x\ x\ x} \\ 1\,0\,0\,0\,0 \end{array}$$

16. If 4p – 14 = 42, what is the value of p? (a) 28 (b) 07 (c) 42 (d) 56 (e) 14

17. The average of five numbers is 17, if four of them are 21, 17, 14 and 18, what is the fifth number? (a) 17 (b) 18 (c) 15 (d) 24 (e) 14

18. Simplify $\frac{a^3b^2}{a^2b^3}$ (a) $^b/_a$ (b) $^a/_b$ (c) 2ab (d) 2a (e) $3ab^2$

19. Write in figures MCMXCVI (a) 1996 (b) 1994 (c) 1995 (d) 1998 (e) 1997

20. What does digit 5 in 5103302 stand for? (a) hundred (b) thousand (c) billion (d) tens (e) million

21. A student scored 80% in mathematics test, if the total mark is 240, how many marks did he obtain? (a) 190 (b) 182 (c) 162 (d) 192 (e) 172

22. Adenike and Olatunde shared a gift of N42,00 in the ratio 5:2, what is Adenike's share? (a) N21.00 (b) N18.00 (c) N6.00 (d) N30.00 (e) N12.00

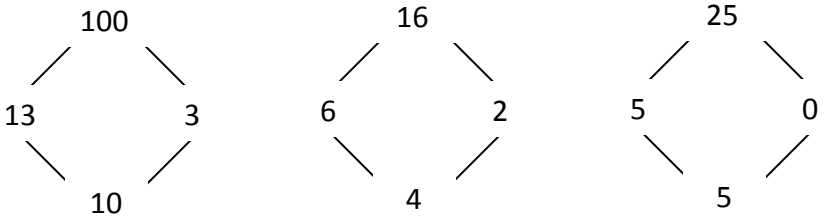
23. There are 990 pupils in a French school, if $^7/_9$ of them are girls, how many boys are there in the school? (a) 420 (b) 220 (c) 230 (d) 770 (e) 320

24. If a car covers a distance of 189km in $4^1/_2$ hours, what is the average speed? (a) 62km/hr (b) 52km/hr (c) 40km/hr (d) 42km/hr (e) 32km/hr

25. Express twenty three thousand and twenty in figure. (a) 2,323 (b) 23,023 (c) 203,203 (d) 230,023 (e) 2,300,023

QUANTITATIVE APTITUDE

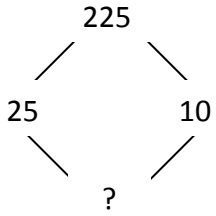
Sample:



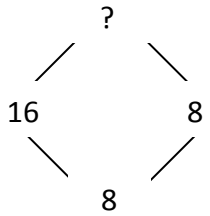
Hint: 13 – 3 = 10

$10^2 = 100$

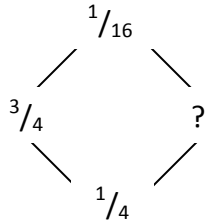
Study the samples and use the above example to answer questions 1 – 4.

1. 

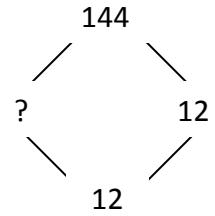
(a) 32
(b) 54
(c) 64
(d) 15
(e) 35

2. 

(a) 64
(b) 13
(c) 9
(d) 12
(e) 75

3. 

(a) $^1/_6$
(b) $^1/_2$
(c) $^3/_4$
(d) $^1/_3$
(e) $^2/_3$

4. 

(a) 36
(b) 18
(c) 35
(d) 24
(e) 16

Example: $2 \wedge 3 = 2 + (2 \times 3) = 8$

$1 \wedge 4 = 1 + (1 \times 4) = 5$

$3 \text{ v } 2 = (3 \times 2) - 2 = 4$

$4 \text{ v } 1 = (4 \times 1) - 1 = 3$

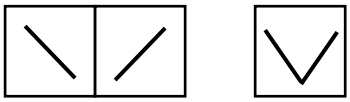
Study and use the samples above to answer questions 5 – 8.

5. $5 \wedge 4 =$ (a) 9 (b) 15 (c) 20 (d) 25 (e) 100

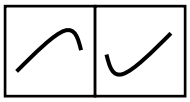
6. $7 \text{ v } 3 =$ (a) 4 (b) 10 (c) 18 (d) 28 (e) 63

7. $\frac{2 \wedge 6}{3 \text{ v } 4} =$ (a) $^3/_4$ (b) $^{14}/_{15}$ (c) 1 (d) $1^3/_4$ (e) 4

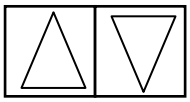
8. $\frac{7 \wedge 5}{2 \text{ v } 1} =$ (a) 42 (b) $17^1/_2$ (c) $7^1/_2$ (d) 6 (e) 2

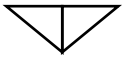
Sample: 

Which shape in the given options is the best combination of the given two shapes in 9 and 10?

9. 

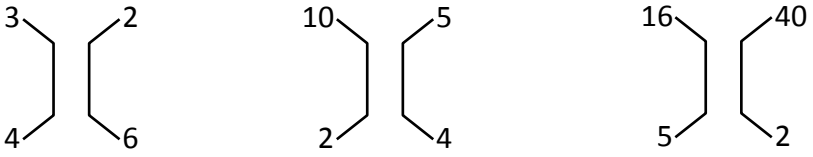
(a)  (b)  (c)  (d) m (e) w

10. 

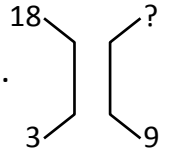
(a)  (b)  (c)  (d) 

(e) 

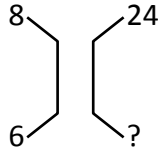
Example:



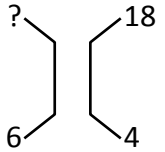
Use the above example to answer questions 11 – 15. **Hint:** 3 x 4 = 2 x 6

11. 

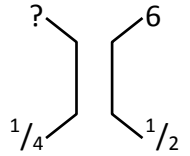
(a) 21
(b) 15
(c) 12
(d) 8
(e) 6

12. 

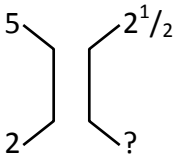
(a) 14
(b) 12
(c) 10
(d) 4
(e) 2

13. 

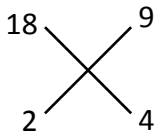
(a) 14
(b) 12
(c) 10
(d) 8
(e) 6

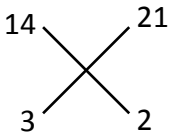
14. 

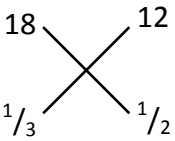
(a) 24
(b) 15
(c) 12
(d) 3
(e) 2

15. 

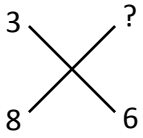
(a) $7\frac{1}{2}$
(b) 7
(c) $4\frac{1}{2}$
(d) 4
(e) 2

Example: 

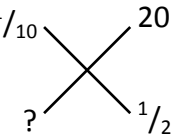




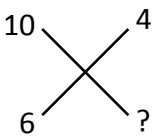
Use the above example to answer questions 16 – 20. **Hint:** 2 x 18 = 9 x 4

16. 

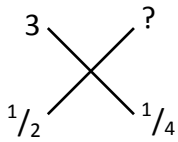
(a) $6\frac{1}{2}$
(b) 6
(c) $5\frac{1}{2}$
(d) 4
(e) 3

17. 

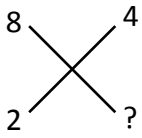
(a) 200
(b) 100
(c) 50
(d) 20
(e) 10

18. 

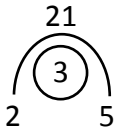
(a) 60
(b) 40
(c) 24
(d) 20
(e) 15

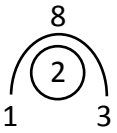
19. 

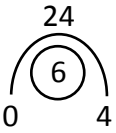
(a) 6
(b) 4
(c) $3\frac{1}{2}$
(d) $\frac{3}{4}$
(e) $\frac{1}{2}$

20. 

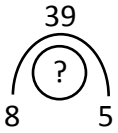
(a) 12
(b) 10
(c) 6
(d) 4
(e) 2

Example: 

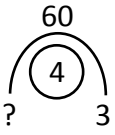




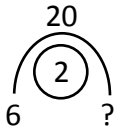
Use the sample above to answer questions 21 – 25. **Hint:** 3(2 + 5) = 21

21. 

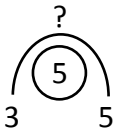
(a) 2
(b) 3
(c) 4
(d) 13
(e) 12

22. 

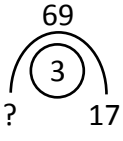
(a) 5
(b) 8
(c) 20
(d) 15
(e) 12

23. 

(a) 4
(b) 5
(c) 8
(d) 10
(e) 12

24. 

(a) 15
(b) 20
(c) 28
(d) 40
(e) 75

25. 

(a) 6
(b) 7
(c) 8
(d) 16
(e) 23

PRIMARY SCIENCE

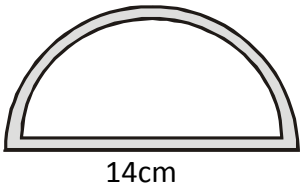
1. The process by which water vapour changes to cloud is called ____ (a) saturation (b) evaporation (c) boiling (d) condensation (e) vaporization
2. Environment is the totality of _____ (a) everything around us (b) things on our bedroom (c) things in our home (d) things in our kitchen (e) things in our school
3. The source of heat energy are the following EXCEPT (a) chemical (b) electrical (c) mechanical (d) stone (e) sun
4. One of the living thing found inside the soil is _____ (a) cockroach (b) earthworm (c) butterfly (d) grasshopper (e) housefly
5. A point in the animal body where two bones meet is called a ____ (a) meeting point (b) joining point (c) joint (d) axle (e) ankle
6. The chemical symbol for oxygen is _____ (a) CO_2 (b) O_2 (c) $H2_O$ (d) CaO (e) H_2SO_4
7. A magnet has _____ end. (a) 4 (b) 3 (c) 2 (d) 1 (e) 0
8. _____ is the wearing/washing away of the top soil and plant nutrients. (a) erosion (b) friction (c) pollution (d) production (e) pulley
9. Any meal which contains all the classes of food nutrients is called ___ (a) unbalanced diet (b) fresh diet (c) balanced meat (d) balanced food (e) balanced diet
10. Which of the following protects the brain from damage? (a) rib cage (b) muscles (c) skull (d) tendon (e) backbone

STATE COMMON ENTRANCE EXAMINATION (2009)

Instruction: *Attempt all questions.*

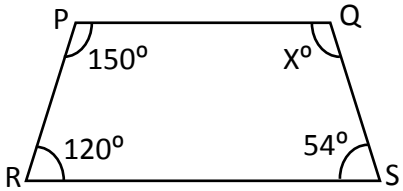
1. Write in figure: Fifty – five thousand and sixteen. (a) 56016 (b) 55016 (c) 55014 (d) 55013 (e) 55012
2. Mrs. Audu's salary per annum is N44,000.00. If N25,000.00 of the salary is tax free, what is the taxable income? (a) N150,000.00 (b) N44,000.00 (c) N25,000.00 (d) N19,000.00 (e) N6,900.00
3. If m = 4 and n = 3, what is the value of (m + n)(m – n)? (a) 27 (b) 14 (c) 8 (d) 7 (e) 6
4. If a Local government in Lagos State charges N400.00 monthly for each house as tenement rate, find the total amount collected on 110 houses in one amount. (a) N4,000.00 (b) N6,000.00 (c)N11,000.00 (d) N44,000.00 (e) N55,000.00
5. When a number is multiplied by 4 and 6 is added, the final answer is 50. What is the number? (a) 11 (b) 21 (c) 44 (d) 54 (e) 56
6. A plastic manufacturing company puts for sale its 50k shares in multiples of 100. Find the cost of 700 shares. (a) N250.00 (b) N300.00 (c) N350.00 (d) N450.00 (e) N650.00
7. What is the difference between 4 hundreds and 4 tens? (a) 4,040 (b) 440 (c) 404 (d) 360 (e) 160
8. Moyo sold a shirt at the rate of N1,200.00 and made a profit of 25%. What was the cost price? (a) N480.00 (b) N900.00 (c) N960.00 (d) N1,008.00 (e) N1,500.00
9. John, Grace and Patience received N396.00 to be shared in the ratio 5:4:3 respectively. How much did John receive? (a) N33.00 (b) N99.00 (c) N132.00 (e) N165.00 (e) N198.00
10. The average speed of a journey of 1,440km was 80km/h. How long did the journey take? (a) 3 hours (b) 6 hours (c) 12 hours (d) 18 hours (e) 24 hours
11. Adamu and Dele shared 50 oranges. Adamu has 10 more oranges than Dele. How many oranges has Adamu? (a) 30 oranges (b) 25 oranges (c) 20 oranges (d) 15 oranges (e) 10 oranges

12. A class is made up of 50 boys and 25 girls. What is the ratio of girls to boys? (a) 1:2 (b) 2:1 (c) 2:5 (d) 5:2 (e) 7:2
13. The average speed of a journey of 1,400km was 80km/h. How long did the journey take? (a) 3 hours (b) 6 hours (c) 12 hours (d) 18 hours (e) 24 hours
14. What is the product of 137 and 29? (a) 4,000 (b) 3,973 (c) 3,899 (d) 2,998 (e) 1,599
15. Approximate 50,769 to its nearest hundred. (a) 50,000 (b) 50,700 (c) 50,760 (d) 50,770 (e) 50,800
16. Calculate the area of the semi-circle below (Take $\pi = {}^{22}/_{7}$).



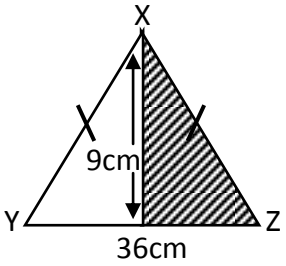
(a) 70cm² (b) 77cm² (c) 80cm² (d) 85cm² (e) 90cm²

17. Find the missing angle.



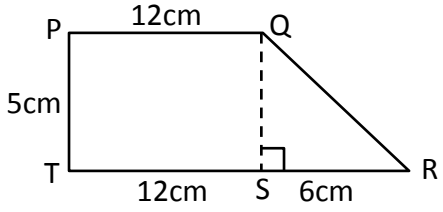
(a) 81° (b) 105° (c) 135° (d) 159° (e) 210°

18. Calculate the area of the shaded portion from the diagram below.



(a) 30cm² (b) 45cm² (c) 81cm² (d) 162cm² (e) 324cm²

19. Arrange the following fractions in ascending order: ${}^{1}/_{4}$, ${}^{2}/_{3}$, ${}^{1}/_{2}$, ${}^{3}/_{4}$, ${}^{5}/_{8}$ (a) ½, ${}^{2}/_{3}$, ¼, ¾, ${}^{5}/_{8}$ (b) ¼, ½, ${}^{5}/_{8}$, ${}^{2}/_{3}$, ¾ (c) ½, ${}^{2}/_{3}$, ¼, ${}^{5}/_{8}$, ¾ (d) ¼, ½, ${}^{2}/_{3}$, ¾, ${}^{5}/_{8}$ (e) ${}^{2}/_{3}$, ½, ¼, ¾, ${}^{5}/_{8}$
20. Calculate the time when N200 will yield interest of N250 at the rate of 5%. (a) 1 year (b) 1½ years (c) 2½ years (d) 4 years (e) 5 years
21. A class is made up of 50 boys and 25 girls. What is the ratio of girls to boys? (a) 1:2 (b) 2:1 (c) 2:5 (d) 5:2 (e) 7:2
22. Calculate the area of the trapezium below.



(a) 18cm² (b) 60cm² (c) 75cm² (d) 80cm² (e) 90cm²

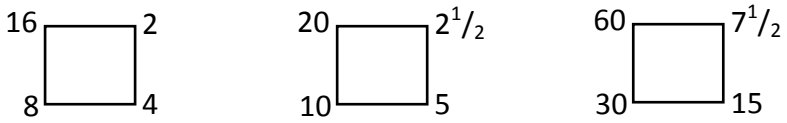
23. What is the place value of 6 in 8632? (a) tens (b) hundreds (c) hundredth (d) thousands (e) thousandth

24. A line that divides a circle into two equal parts is called a ____ (a) chord (b) diameter (c) parameter (d) radius (e) semi-circle

25. Express 4¼ liters in cubic centimeters. (a) 2,504cm³ (b) 3,562cm³ (c) 3,650cm³ (d) 4,250cm³ (e) 5,450cm³

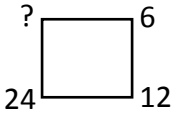
QUANTITATIVE APTITUDE

Sample:

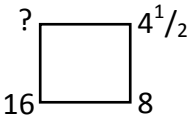


Hint: 5 x Im4 = 20
5 x Im2 = 10
10 / Im4 = 2½

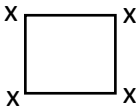
Use the samples above to answer questions 1 – 3

1. 

(a) 36
(b) 40
(c) 45
(d) 48
(e) 60

2. 

(a) 3
(b) 4
(c) 7
(d) 8
(e) 9

3. 

(a) 18
(b) 22
(c) 24
(d) 27
(e) 32

Sample:

	5
5	1
10	½

	6
2	3
3	2

	1
2	½
4	¼

Use the above sample for questions 4 – 6. **Hint:** 5 x 1 = 5 | 10 x ½ = 5

4.

	10
5	2
5	?

(a) 2
(b) 5
(c) 6
(d) 8
(e) 9

5.

	0
5	?
7	0

(a) 4
(b) 3
(c) 2
(d) 1
(e) 0

6.

	?
2	2
1	4

(a) 1
(b) 2
(c) 4
(d) 21
(e) 24

Sample:

5 → 1 = $\frac{5 + 1}{2}$ = 3

3 → 4 = $\frac{3 + 4}{2}$ = 3½

6 ← 2 = $\frac{6 - 2}{2}$ = 2

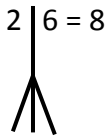
7. 18 → 6 = ? (a) 18 (b) 12 (c) 10 (d) 9 (e) 8

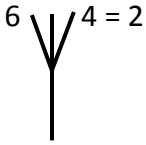
8. 8 → ? = 5 (a) 8 (b) 5 (c) 3 (d) 2 (e) 1

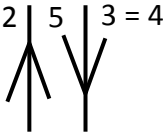
9. 18 ← 16 = ? (a) 34 (b) 16 (d) 2 (e) 1

10. $3^1/_2$ → $8^1/_2$ = ? (a) 10 (b) $3^1/_2$ (c) 6 (d) 4 (e) $2^1/_2$

Sample:

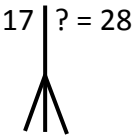






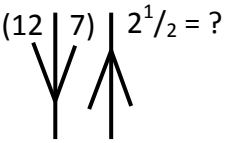
Use the samples above to answer questions 11 – 14. [**Hint:** 2 + 6 = 8 | 6 – 4 = 2]

11.



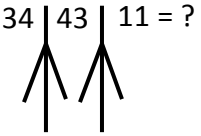
(a) 10
(b) 11
(c) 15
(d) 17
(e) 19

12.



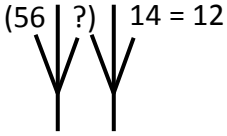
(a) $2^1/_2$
(b) $4^1/_2$
(c) $6^1/_2$
(d) $7^1/_2$
(e) $10^1/_2$

13.



(a) 26
(b) 30
(c) 57
(d) 77
(e) 88

14.



(a) 25
(b) 30
(c) 54
(d) 58
(e) 82

Sample: **P_1 = 1; P_2 = 12; P_3 = 123; P_4 = 1234; P_5 = 12345**

Study the samples and use them to answer questions 15 – 19.

15. What is $P_2 + P_3$? (a) 135 (b) 145 (c) 165 (d) 175 (e) 195

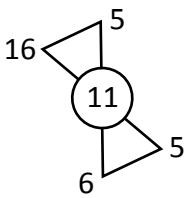
16. What is $P_1 + P_2$? (a) 33 (b) 23 (c) 13 (d) 10 (e) 7

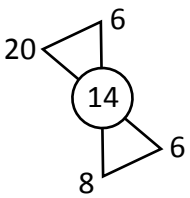
17. What is the value of $P_1 + P_2 + P_3$? (a) 96 (b) 106 (c) 116 (d) 126 (e) 136

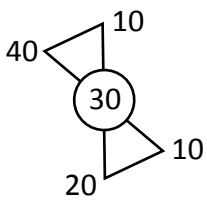
18. What is the value of $P_5 – P_3$? (a) 12,022 (b) 12,032 (c) 12,122 (d) 12,222 (e) 12,202

19. What is the value of P_2 x P_3? (a) 1496 (b) 1476 (c) 1466 (d) 1456 (e) 1446

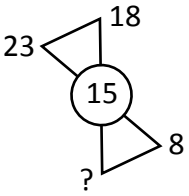
Sample:



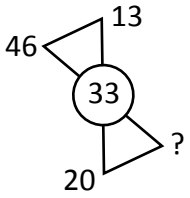




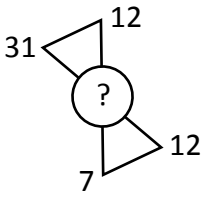
Use the above sample to answer questions 20 – 22. [**Hint:** 16 – 5 = 11 | 5 + 6 = 11]

20. 

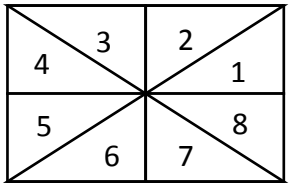
(a) 5
(b) 6
(c) 7
(d) 8
(e) 9

21. 

(a) 13
(b) 23
(c) 33
(d) 46
(e) 76

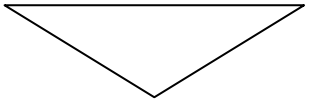
22. 

(a) 11
(b) 13
(c) 15
(d) 17
(e) 19

Sample: 

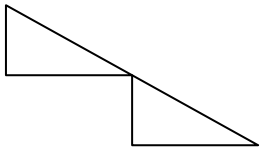
Use the above sample to answer questions 23 – 25.

23. Which parts of the figure are combined to make this shape?

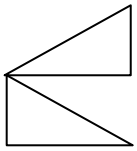


(a) 6, 7 (b) 3, 2 (c) 5, 8 (d) 4, 1 (e) 4, 3

24. Which parts are combined to make:



(a) 4, 6 (b) 3, 7 (c) 4, 7 (d) 4, 8 (e) 3, 8

25. 

(a) 1, 7 (b) 2, 7 (c) 2, 8 (d) 1, 6 (e) 3, 6

BASIC SCIENCE

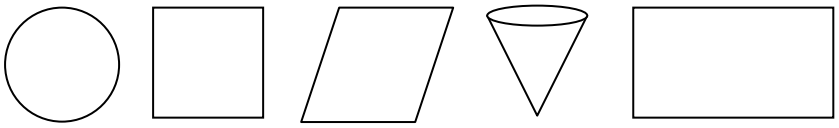
1. The process by which green plants makes their own food in the presence of sunlight is called _____ (a) Chlorophyll (b) Stomata (c) Filament (d) Pistil (e) Photosynthesis
2. All these are used in making soap EXCEPT ____ (a) caustic soda (b) candle wax (c) palm oil (d) ashes (e) peel from unripe plantain
3. Which of the following is not a good quality of water for domestic use? (a) germ use (b) odourless (c) tasteless (d) colourless (e) hard

4. A long bar used for lifting or moving heavy things from one place to another is called ____ (a) cutlass (b) level (c) syringe (d) spanner (e) knife
5. The colours used for traffic light are _____ (a) white, red, green (b) yellow, green, black (c) green, red, yellow (d) blue, red, yellow (e) purple, black, white
6. ____ can kill a farmer's crop if not controlled. (a) manure (b) bitter kola (c) kolanut (d) pest (e) good soil
7. The basic and functional unit of life is called _____ (a) Nucleus (b) tissue (c) cell (d) organ (e) intestine
8. The energy obtained from the sun is called ____ (a) Solar energy (b) Hydro energy (c) Atomic energy (d) Thermal energy (e) Boiling energy
9. The path along which a planet travels round the sun is called ___ (a) Eclipse (b) Orbit (c) Solar system (d) Satellite (e) Moon
10. Those animals that live with us in our house or environment are called ____ animals. (a) harmful (b) farm (c) domestic (d) wild (e) zoo

STATE COMMON ENTRANCE EXAMINATION (2010)

1. There are 10,613 people living in a town. 590 are boys, 486 are girls, 4,037 are women and 2,587 are babies, the rest are men. How many men are there? (a) 2,092 men (b) 2,913 men (c) 3,018 men (d) 3,091 men (d) 5,601 men
2. 11 poles are erected in a straight line with 75cm interval between two poles. What is the distance between the first and the last pole? (a) 900cm (b) 825cm (c) 750cm (d) 650cm (e) 460cm
3. The ages of Oke, Umaru, Tunde and Effiong are 10, 13, 9 and 12 years respectively. Calculate the average age. (a) 7 years (b) 8 years (c) 9 years (d) 10 years (e) 11 years
4. If an aeroplane took six hours to fly from Lagos to Rome, a distance of 4,200km, what was the average speed of the plane? (a) 806km/h (b) 706km/h (c) 700km/h (d) 4,800km/h (e) 4,200km/h
5. What is the place value of 9 in the figure 9,756? (a) hundred (b) thousand (c) ten thousand (d) hundred thousand (e) million
6. Calculate the circumference of a circle with radius 7cm. (Take $\pi = {}^{22}/_{7}$). (a) 44cm (b) 54cm (c) 64cm (d) 74cm (e) 84cm
7. A transport company uses 108 litres of petrol a day. How many litres of petrol will the company use in 20 days? (a) 216 litres (b) 1,160 litres (c) 1,260 litres (d) 2,160 litres (e) 3,160 litres
8. A suitcase is marked N7,000 in a shop. There is a scale on, and all goods are reduced by 10% of the marked price. What is the new price of the suitcase? (a) N8,300.00 (b) N7,300.00 (c) N6,300.00 (d) N5,300.00 (e) N4,300.00
9. James and John share their profit of N3,000.00 in the ratio 3:7. How much does each receive? (a) N2,200.00 : N900.00 (b) N1,300.00 : N900.00 (c) N900.00 : N2,200 (d) N900.00 : N2,100.00 (e) N800.00 : N2,090.00
10. What is the mean and the mode of these scores: 72, 75, 73, 78, 72? (a) 78, 75 (b) 75, 73 (c) 74, 73 (d) 74, 72 (e) 73, 72
11. Which of the following is 1,914 in Roman numeral? (a) MCCMXIV (b) MCMXXIV (c) MCMVXIV (d) MCMXIV (e) MCMIXV

12. Simplify $\frac{5{,}938\text{kg}}{35}$, giving your answer to 2 places of decimal. (a) 169.657kg (b) 169.67kg (c) 169.66kg (d) 169.65kg (e) 16.965kg
13. Express 196 as a product of prime factors. (a) 2 x 3 x 3 x 7 (b) 2 x 2 x 7 x 7 (c) 2 x 2 x 3 x 7 x 7 (d) 2 x 3 x 3 x 7 x 7 (e) 2 x 3 x 5 x 7 x 7
14. Find the number of the days between these dates: April 16th – May 21st (both dates inclusive). (a) 14 days (b) 23 days (c) 36 days (d) 33 days (e) 34 days
15. What is *t* in *t* – 3728 = 4589? (a) 8,317 (b) 8,529 (c) 8,888 (d) 8,923 (e) 8,933
16. N200.00 is shared equally among 40 children. How much did each child get? (a) ₦16.25 (b) ₦17.90 (c) ₦18.20 (d) ₦20.75 (e) ₦17.50
17. Add: 17.236kg, 8.497kg and 3.784kg. (a) 29.157kg (b) 29.517kg (c) 29.715kg (d) 29.717kg (e) 29.777kg
18. Divide 560 by 10, 20, 40. (a) 56, 40, 14 (b) 56, 28, 14 (c) 56, 24, 14 (d) 56, 20, 14 (e) 56, 10, 14
19. The sum of 3 angles of a triangle = 180°. If the two angles are 90° and 45° each, find the third. (a) 100° (b) 90° (c) 60° (d) 45° (e) 30°
20. Which of the following is the correct names of figures I – IV?



(I) (II) (III) (IV) (V)

(a) circle, kite, cone, square, cubic (b) circle, cone, cylinder, rectangle, kite (c) circle, triangle, cone, kite, cube (d) circle, square, parallelogram, cone, rectangle (e) circle, rectangle, square, cone, rectangle

21. Add: a gross, 3 scores and 5 dozens. (a) 264 (b) 246 (c) 462 (d) 624 (e) 726
22. Write in figure: One million, six thousand and seven. (a) 1,600,007 (b) 1,060,007 (c) 1,000,007 (d) 1,006,007 (e) 1,006,607
23. A sack contains 124 yams. Find the yams in 636 sacks. (a) 78,874 yams (b) 78,864 yams (c) 78,854 yams (d) 78,844 yams (e) 78,834 yams
24. The most accurate way of drawing a circle is by the use of a pair of ____ (a) compass (b) dividers (c) pencils (d) rulers (e) strings
25. A girl had ₦145.00 and was given ₦83.00 by her father. She spent ₦27.0 and gave ₦8.00 to her brother. How much did she have left? (a) ₦143.00 (b) ₦145.00 (c) ₦163.00 (d) ₦172.00 (e) ₦193.00

QUANTITATIVE APTITUDE

INSTRUCTION: ***Answer all questions***

Sample A:

ABCDE represents 82965

Use the above to answer questions 1 – 5.

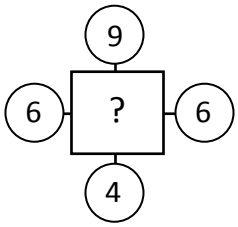
1. Write 256 in letters. (a) EDB (b) EBD (c) BED (d) DEB (e) DBE
2. Write BEAD in figures. (a) 2586 (b) 5682 (c) 2865 (d) 6258 (e) 8526
3. What letters can represent 826/958? (a) DBA/AEC (b) ABD/CEA (c) DAB/ECA (d) BAD/ECA (e) ADB/CAE
4. Find the value of A + B (a) 12 (b) 11 (c) 6 (d) 8 (e) 10
5. What letters represent 6825? (a) DEBA (b) DABE (c) BADE (d) BEDA (e) EBDA

Sample B:

Use the above samples to answer questions 6 – 10.

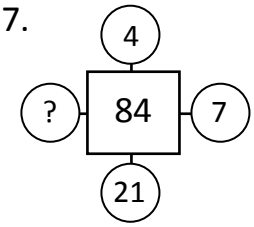
Hint: 6 x 4 = 24 | 8 x 3 = 24

6.



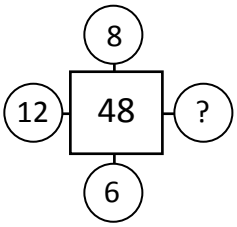
(a) 30
(b) 32
(c) 36
(d) 37
(e) 38

7.



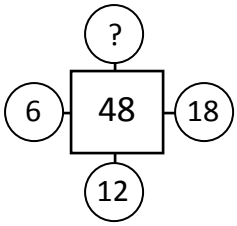
(a) 6
(b) 12
(c) 15
(d) 18
(e) 20

8.



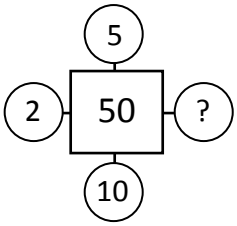
(a) 9
(b) 8
(c) 6
(d) 4
(e) 3

9.



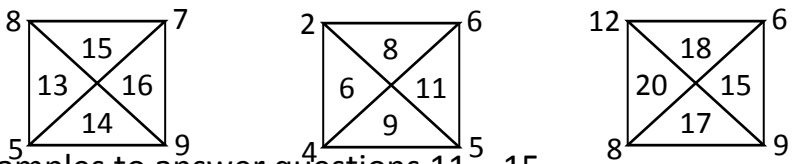
(a) 9
(b) 12
(c) 14
(d) 16
(e) 20

10.



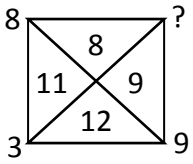
(a) 10
(b) 15
(c) 20
(d) 25
(e) 30

Sample C:

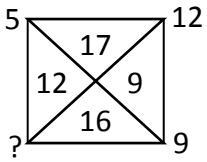


Use the above samples to answer questions 11 – 15.

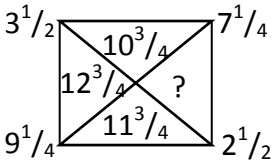
Hint: 8 + 7 = 15, 8 + 5 = 13, 5 + 9 = 14, 7 + 9 = 16

11. 

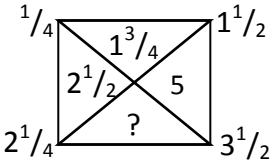
(a) 2
(b) $11^1/_2$
(c) 11
(d) $^1/_2$
(e) 0

12. 

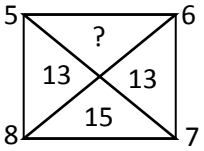
(a) 3
(b) 4
(c) 7
(d) 12
(e) 14

13. 

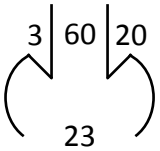
(a) $7^3/_4$
(b) $8^1/_4$
(c) $9^1/_4$
(d) $9^3/_4$
(e) $10^1/_2$

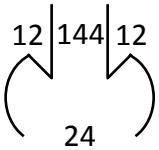
14. 

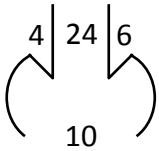
(a) 4
(b) $5^3/_4$
(c) $6^3/_4$
(d) $7^1/_2$
(e) $8^1/_2$

15. 

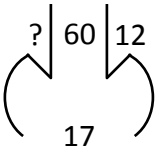
(a) 13
(b) 12
(c) 11
(d) 10
(e) 9

Sample D: 

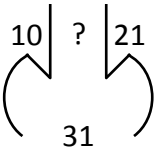




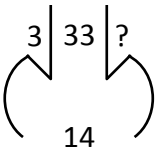
Use the above sample to answer questions 16 – 20. **Hint:** 20 x 3 = 60, 20 + 3 = 23

16. 

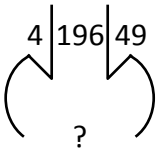
(a) 5
(b) 11
(c) 19
(d) 72
(e) 77

17. 

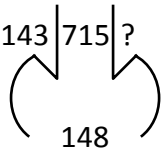
(a) 201
(b) 210
(c) 102
(d) 120
(e) 122

18. 

(a) 4
(b) 11
(c) 14
(d) 37
(e) 40

19. 

(a) 84
(b) 56
(c) 53
(d) 23
(e) 2

20. 

(a) 198
(b) 819
(c) 918
(d) 91
(e) 5

Sample E: 10 v 10 v 5 = 25

12 v 6 ∧ 5 = 13

21 ∧ 13 ∧ 6 = 2

Use the above sample to answer questions 21 – 25. **Hint:** v = +, ∧ = –

21. 24 v 4 v 6 = ? (a) 34 (b) 24 (c) 22 (d) 20 (e) 18

22. 30 ∧ 8 ∧ 16 = ? (a) 54 (b) 22 (c) 6 (d) 4 (e) 2

23. 16 v 4 ∧ 12 = ? (a) 32 (b) 8 (c) 5 (d) 2 (e) 0

24. $30 \wedge 6 \vee 16 = ?$ (a) 40 (b) 30 (c) 20 (d) 8 (e) 6

25. $34 \wedge 14 \vee 6 \wedge 13 = ?$ (a) 36 (b) 20 (c) 18 (d) 13 (e) 12

PRIMARY SCIENCE

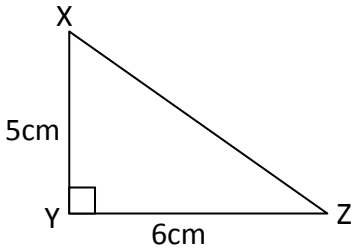
Instruction: Choose the correct answer from the five (5) options given for each of the following questions.

1. One of these is not a function of the skeleton. (a) it supports the body (b) it gives shape to the body (c) it makes movement possible (d) it protects delicate parts of the body (e) it makes us sluggish
2. All human beings reproduce ____ (a) sexually (b) asexually (c) fissionally (d) bi annually (e) fussionally
3. _____ is one of the problems of pre-marital sexual relationship. (a) happy children (b) good health (c) unwanted pregnancy (d) many houses (e) many cars
4. After fertilization, the ovary develops into the fruit while the ovules becomes the _____ (a) sepals (b) stigma (c) seeds (d) styles (e) petals
5. The process by which our water is simply boiled to kill germs and filtered is known as ____ (a) filtration (b) purification (c) distillation (d) evaporation (e) sand filter
6. The first set of teeth in human being is called ____ (a) younger teeth (b) small teeth (c) mil teeth (d) baby teeth (e) infant teeth
7. Telescope is an instrument used by ____ to see distant things in the sky very clear. (a) Asnomers (b) Astronomers (c) Startronomers (d) Teletronomers (e) Astrotomers
8. The process by which rock minerals are broken into simpler forms is known as ____ (a) weathering agents (b) weather (c) weathering (d) pollution (e) rock breakdown
9. Which of the following exposes the surface of the soil to erosion? (a) adding fertilizers (b) manuring (c) planting cover crops (d) mulching (e) too much grazing
10. The THREE elements that fertilizers contain for healthy growth are _____, ____ and _____ (a) Chlorine, Neon, Phosphorus (b) Hydrogen, Element, Sodium (c) Nitrogen, Phosphorus and hydroxide (e) Nitrogen, Chlorine and salt

STATE COMMON ENTRANCE EXAMINATION (2011)

Instruction: *Answer all questions.*

1. What is the place value of the circled number (9)82435? (a) 900,000 (b) 90,000 (c) 9,000 (d) 900 (e) 90
2. Write in words: 7,000,005 (a) seven fifty and five (b) seven hundred and five (c) seven thousand and five (d) seventy thousand and five (e) seven million and five
3. Write in figure: Eight hundred and eighty-eight thousand, eight hundred and eighty-eight. (a) 8,088,880 (b) 8,188,888 (c) 888,088 (d) 888,888 (e) 880,888
4. Express 0.75 as a fraction in its lowest term. (a) $^1/_3$ (b) $^1/_4$ (c) $^1/_2$ (d) $^3/_4$ (e) $^4/_5$
5. Change $^3/_4$ to percentage. (a) 70 (b) 75 (c) 80 (d) 85 (e) 90
6. Take away 2.9 from 8. (a) 3.1 (b) 4.1 (c) 7.1 (d) 6.1 (e) 7.1
7. Add together 7.2; 8.4; 9.6 and 2.7. (a) 27.9 (b) 24.7 (c) 23.7 (d) 20.9 (e) 19.2
8. Find the H.C.F of 9, 18 and 27. (a) 27 (b) 23 (c) 21 (d) 15 (e) 9
9. Correct 9.549 to 1 decimal place. (a) 9.7 (b) 9.6 (c) 9.5 (d) 9.2 (e) 9.1
10. Write in Roman numerals 400. (a) CD (b) DC (c) D (d) DM (e) DA
11. Add: 87,296 and 51,727. (a) 129,023 (b) 131,022 (c) 138,021 (d) 138,024 (e) 139,023
12. Simplify $1^1/_2 + 1^1/_3$. (a) $3^1/_3$ (b) $3^5/_6$ (c) $3^2/_3$ (d) $4^5/_6$ (e) $6^5/_6$
13. Find the sum of $2^1/_2$ and $1^1/_4$. (a) $4^1/_3$ (b) $3^1/_4$ (c) $3^1/_2$ (d) $3^1/_3$ (e) $3^3/_4$
14. Find the difference between $6^1/_2$ and $3^1/_4$ (a) $5^1/_3$ (b) $4^1/_2$ (c) $3^1/_4$ (d) $3^1/_3$ (e) $3^2/_3$
15. If a book cost N150.00 and the book is sold for N210.00, find the profit made. (a) N55.00 (b) N60.00 (c) N70.00 (d) N80.00 (e) N90.00
16. Find the simple interest on N200.00 for 2 years at 4% per annum. (a) N16.00 (b) N17.00 (c)N19.00 (d) N20.00 (e) N25.00
17. Find the area of the right angled triangle. (a) 10cm² (b) 15cm² (c) 18cm² (d) 19cm² (e) 20cm²



18. Find the difference between 5kg 400g and 2kg 637g. (a) 4kg.666g (b) 3kg.765g (c) 2kg.763g (d) 2kg.762g (e) 2kg.563g
19. What fraction of 1kg is 600g? (a) $^{2}/_{5}$ (b) $^{3}/_{5}$ (c) $^{4}/_{5}$ (d) $^{1}/_{7}$ (e) $^{3}/_{7}$
20. A diameter divides a circle into ____ equal parts called ____ (a) 4, shapes (b) 3 , diameter (c) 2, circle (d) 2, semi circle (e) 1, square
21. Find the average of the following: 14cm, 17cm, 18cm, 15cm. (a) 12cm (b) 13cm (c) 14cm (d) 15cm (e) 16cm
22. What is the highest number which you can form from the figures 7, 8 and 5? (a) 875 (b) 874 (c) 785 (d) 758 (e) 578
23. Add the digits in 8271. (a) 50 (b) 20 (c) 19 (d) 18 (e) 16
24. Find 10% of N200.00. (a) N12.00 (b) N15.00 (c) N16.00 (d) N20.00 (e) N30.00
25. Find the sum of all the even numbers between 23 and 29. (a) 80 (b) 79 (c) 78 (d) 75 (e) 74

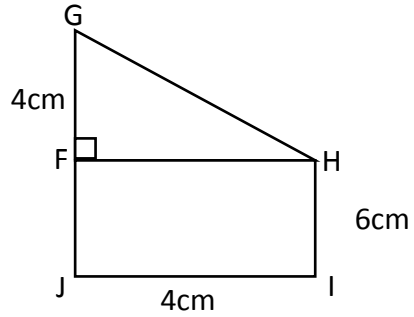
THEORY

Instruction: Answer any four (4) questions. Show all workings including rough works.

(1) Solve $\frac{p-q}{r}$ where p = 13, q = 3 and r = 5.

(2) What is the median age of the following ages (in years) of pupils in primary VI of a particular school in Lagos state: 10, 12, 11, 10, 13, 12, 10, 11, 13, 12 and 14?

(3) Find the area of the figure FGHIJ below.

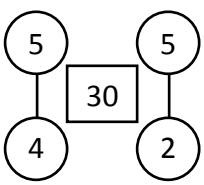


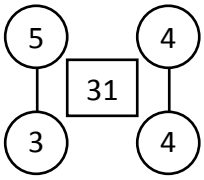
(4) Find the L.C.M of 12, 24, 8 and 16.

(5) Tayo sold a shirt at the rate of N1,200.00 and made a profit of 25%. What was the actual cost price?

QUANTITATIVE APTITUDE

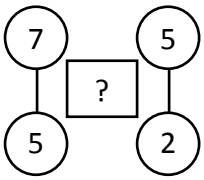
Sample:





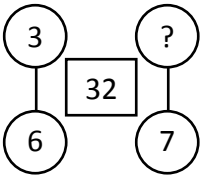
Use the above samples to answer questions 1 – 5. **Hint:** (5 x 4) + (5 x 2) = 30

1.



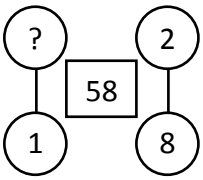
(a) 68
(b) 55
(c) 45
(d) 39
(e) 14

2.



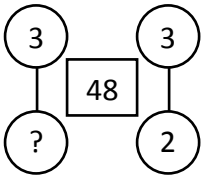
(a) 10
(b) 7
(c) 6
(d) 3
(e) 2

3.



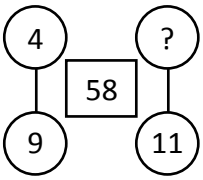
(a) 1
(b) 2
(c) 8
(d) 9
(e) 15

4.



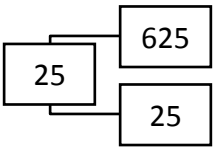
(a) 25
(b) 21
(c) 16
(d) 14
(e) 3

5.



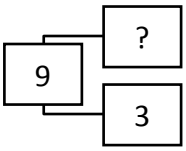
(a) 18
(b) 15
(c) 13
(d) 12
(e) 2

Sample:



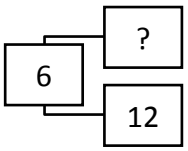
Use the above sample to answer questions 6 – 10. **Hint:** 25 x 25 = 625

6.



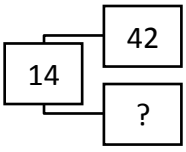
(a) 12
(b) 16
(c) 27
(d) 32
(e) 93

7.



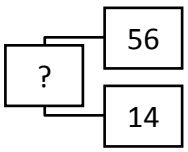
(a) 50
(b) 52
(c) 68
(d) 72
(e) 78

8.



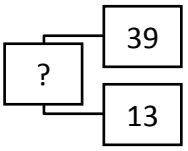
(a) 3
(b) 5
(c) 6
(d) 7
(e) 8

9.



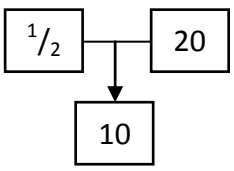
(a) 2
(b) 4
(c) 6
(d) 8
(e) 10

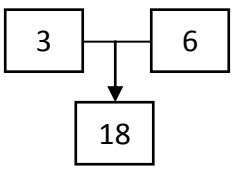
10.



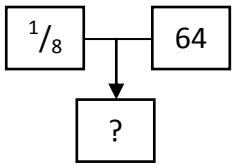
(a) 15
(b) 12
(c) 9
(d) 6
(e) 3

Samples:

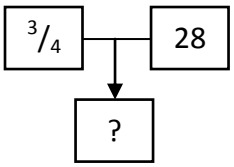




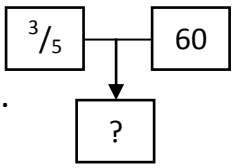
Use the above samples to answer questions 11 – 15. **Hint:** 3 x 6 = 18.

11. 

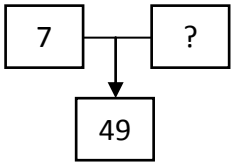
(a) 12
(b) 10
(c) 9
(d) 8
(e) 5

12. 

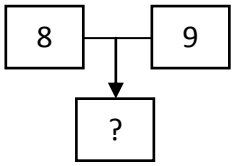
(a) 22
(b) 21
(c) 20
(d) 16
(e) 14

13. 

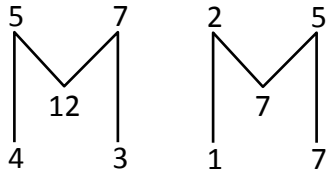
(a) 32
(b) 36
(c) 38
(d) 49
(e) 41

14. 

(a) 7
(b) 9
(c) 13
(d) 16
(e) 20

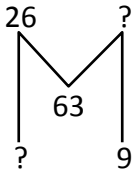
15. 

(a) 32
(b) 44
(c) 52
(d) 62
(e) 72

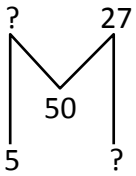
Samples: 

Hint: 5 + 7 = 12, 4 x 3 = 12

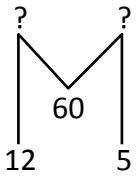
Use the above sample to solve the problems below to answer questions 16 – 20.

16. 

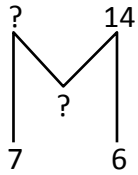
(a) 38, 7
(b) 39, 7
(c) 37, 7
(d) 35, 6
(e) 30, 4

17. 

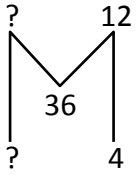
(a) 34, 2
(b) 33, 4
(c) 24, 9
(d) 23, 10
(e) 23, 22

18. 

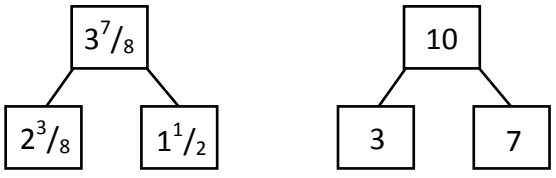
(a) 23, 25
(b) 24, 36
(c) 25, 15
(d) 30, 30
(e) 37, 40

19. 

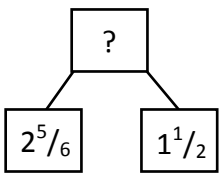
(a) 18, 20
(b) 22, 14
(c) 28, 42
(d) 30, 40
(e) 32, 09

20. 

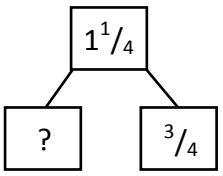
(a) 25, 8
(b) 24, 9
(c) 23, 8
(d) 22, 7
(e) 21, 4

Samples: 

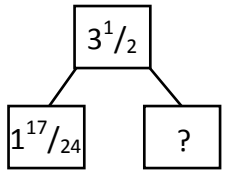
Use the above sample to answer questions 21 – 25. **Hint:** 3 + 7 = 10

21. 

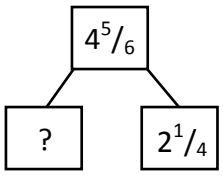
(a) $1\frac{1}{4}$
(b) $2\frac{1}{4}$
(c) $2\frac{5}{6}$
(d) $3\frac{1}{3}$
(e) $4\frac{1}{3}$

22. 

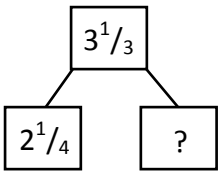
(a) $\frac{1}{4}$
(b) $\frac{1}{2}$
(c) $1\frac{1}{2}$
(d) $1\frac{1}{4}$
(e) $1\frac{3}{4}$

23. 

(a) 5
(b) $4^1/_2$
(c) $3^3/_7$
(d) $1^5/_8$
(e) $1^1/_2$

24. 

(a) $4^7/_{12}$
(b) $3^7/_{12}$
(c) $4^1/_4$
(d) $5^1/_2$
(e) $6^1/_4$

25. 

(a) $^4/_5$
(b) $1^1/_{12}$
(c) $2^1/_4$
(d) $3^3/_7$
(e) $4^2/_5$

BASIC SCIENCE

Answer all questions in this section.

(1) Harmful substance (like offensive grasses, vehicle pipe exhausts, etc.) around us can cause _____

(2) Those animals that live with us in our house or environment are called _____

(3) _____ of the moon takes place when rays of light from the sun is blocked by the earth.

(4) _____ is the smallest unit of life.

(5) _____ can kill a farmer's crop if not controlled.

(6) The two ends of a laboratory magnet are _____

(7) A meal which contains all classes of food is referred to as _____

(8) _____ is the wearing away of the top soil and plant nutrients.

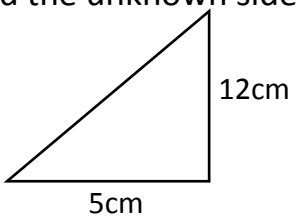
(9) The energy obtained from the sun is called _____

(10) The process by which green plants make their own food in the presence of sunlight is called _____

STATE COMMON ENTRANCE EXAMINATION (2012)

1. What is the place value of 9 in 29482? (a) 100 (b) 1000 (c) 9000 (d) 10,000
2. Find the cost of 5 notebooks at N25.00 each. (a) N1025.00 (b) N250.00 (c) N125.00 (d) N50.00
3. What is the square root of 49? (a) 7 (b) 14 (c) 29 (d) 7 x 7
4. Write in Roman figure LXXIX (a) 49 (b) 79 (c) 81 (d) 97
5. Write in numerals – One thousand, five hundred and forty-six. (a) 100050046 (b) 150046 (c) 10546 (d) 1546
6. Express $^{64}/_{5}$ as a mixed number. (a) $12^{4}/_{5}$ (b) 12.8 (c) $6^{4}/_{5}$ (d) $124^{1}/_{5}$
7. Change 23kg to grams. (a) 203 grams (b) 230 grams (c) 2303 grams (d) 23000 grams
8. A woman bought a bag of rice for N3485.75 and sold it for N4500, find the profit. (a) N665.25 (b) 166.25 (c) N1665.75 (d) N7635.75
9. Multiply 213 by 7. (a) 220 (b) 282 (c) 4919 (d) 1491
10. Subtract 5645 from 8125. (a) 2480 (b) 4728 (c) 8742 (d) 13778
11. Add up 86, 92 and 142. (a) 203 (b) 220 (c) 320 (d) 1922
12. Simplify 9.4 + 7.52 – 1.045 (a) 15.875 (b) 16.92 (c) 17.965 (d) 25.875
13. Find the average of 14, 18 and 22. (a) 10 (b) 18 (c) 54 (d) 81
14. Calculate 20% of 120. (a) 240 (b) 42 (c) 40 (d) 24
15. Find the value of q in the equation: $^{30}/_{16} = {}^{q}/_{48}$. (a) 30 (b) 60 (c) 90 (d) 150
16. If 6 oranges cost N18.00, find the cost of 3 oranges. (a) N90 (b) N9 (c) N19 (d) N49
17. Subtract the sum of 3.75 and 2.0001 from 6.009. (a) 0.5580 (b) 0.7508 (c) 0.5085 (d) 0.5058
18. Calculate the product of 38 and 18. (a) 688 (b) 687 (c) 684 (d) 56
19. Multiply 49.5 by 0.5 (a) 24.75 (b) 247.5 (c) 24.75 (d) 24.72
20. Add up 0.465 + 8.145 + 0.34 + 0.08 (a) 9.003 (b) 9.03 (c) 9.0031 (d) 90.003
21. Solve 2386 + 777 – 8247. (a) 1169 (b) 1196 (c) 1916 (d) 1917
22. Simplify $^{7}/_{18} + {}^{5}/_{6} + {}^{2}/_{3}$ (a) $2^{1}/_{3}$ (b) $2^{5}/_{9}$ (c) $1^{8}/_{9}$ (d) $1^{7}/_{9}$
23. If p + 2q = 40, find q when p = 16. (a) 28 (b) 20 (c) 12 (d) 10

24. A room is 12m long and 8m wide and 10m high, find the area of the room. (a) 120m² (b) 100m² (c) 96m² (d) 72m²
25. What is 45% of N1.50? (a) 30k (b) 3k (c) $67^{1}/_{2}$k (d) N3.33
26. Change 717k to naira and kobo. (a) N7.17 (b) N71.70 (c) N77.00 (d) N717
27. If 26 – k = 12, find k. (a) 12 (b) 13 (c) 14 (d) 38
28. 27 x 12 is (a) 287 (b) 297 (c) 314 (d) 324
29. If 402 + □ = 782, find □ (a) 360 (b) 370 (c) 380 (d) 390
30. The number of days in 2 weeks is (a) 7 (b) 10 (c) 14 (d) 21
31. What is the value in the box? 2 + 8 + □ = 20. (a) 30 (b) 28 (c) 22 (d) 10
32. What is the HCF of 18 and 220? (a) 2 (b) 4 (c) 5 (d) 6
33. Find the unknown side in the right-angled triangle below.



(a) 13cm (b) 17cm (c) 18cm (d) 30cm
34. N3,200 was shared between Olu and Ade in ratio 3:5. How much did Ade receive? (a) N1200 (b) N1600 (c) N2000 (d) N2400
35. If a car travels at a uniform speed of 60km/h, what distance does it cover in $1^{1}/_{2}$ hours? (a) 150km (b) 120km (c) 90km (d) 60km
36. Simplify $^{3}/_{4}[^{1}/_{3} \div {}^{1}/_{2}]$ (a) $^{3}/_{4}$ (b) $^{7}/_{12}$ (c) $^{1}/_{2}$ (d) $^{5}/_{12}$
37. Find the mean of 2, 4, 6 and 8 (a) 3 (b) 4 (c) 5 (d) 6
38. When five is added to a number the result is twenty, find the number. (a) 25 (b) 20 (c) 15 (d) 10
39. Find the perimeter of a square of sides 6cm. (a) 36cm (b) 24cm (c) 16cm (d) 12cm
40. What is $^{3}/_{4}$ of $[^{1}/_{12} \div {}^{1}/_{3}]$? (a) $^{3}/_{16}$ (b) $^{1}/_{4}$ (c) $^{3}/_{8}$ (d) $^{3}/_{4}$
41. Find the cost of 130 shares at the rate of 35 kobo per share. (a) N48.50 (b) N48.00 (c) N45.50 (d) N35.50
42. What is the median of 4, 5, 6, 7 and 10? (a) 4 (b) 5 (c) 6 (d) 7
43. Find the LCM of 8 and 20. (a) 20 (b) 32 (c) 40 (d) 80
44. What is the square of 17? (a) 299 (b) 289 (c) 279 (d) 169
45. If 2x + 5 = 13, find x. (a) 9 (b) 4 (c) 3 (d) 2

46. Simplify: 2x + 5x – 10x. (a) 2x (b) – x (c) x (d) – 3x

47. Multiply 3.7 by 2.2 (a) 814 (b) 84.1 (c) 81.4 (d) 8.14

48. Alhaji Musa travels at the rate of 50km/hr, how long will it take him to travel 100km? (a) $^1/_2$ hr (b) 1hr (c) 2 hrs (d) 3 hrs

49. A motorcycle bought at N70,000 was sold for N60,000 . How much was lost? (a) N20,000 (b) N15,000 (c) N10,000 (d) N5,000

50. Subtract 1575 from 2585. (a) 1110 (b) 1100 (c) 1010 (d) 1000

QUANTITATIVE

Use the sample below to answer questions 1 – 5. [**Hint:** (8 + 4) x 2 = 24

Sample A:

8 P 4 = 24 10 P 6 = 32 15 P 6 = 42

1. 15 P 2 = ? (a) 13 (b) 34 (c) 19 (d) 32

2. 4 P ? = 18 (a) 22 (b) 14 (c) 10 (d) 5

3. ? P 4 = 12 (a) 2 (b) 8 (c) 16 (d) 48

4. 6 P 10 = ? (a) 0 (b) 4 (c) 16 (d) 32

5. ? P 15 = 40 (a) 10 (b) 20 (c) 5 (d) 55

Use the sample below to answer questions 6 – 10.

Sample B:

Hint: 9 x 4 + 3 = 39

3	39
4	9

7	27
5	4

16	72
7	8

6.

7	72
13	?

(a) 4
(b) 5
(c) 6
(d) 11

7.

?	36
4	7

(a) 8
(b) 11
(c) 24
(d) 29

8.

12	30
?	6

(a) 38
(b) 26
(c) 12
(d) 3

9.

?	39
4	9

(a) 1
(b) 2
(c) 3
(d) 4

10.

16	?
7	8

(a) 78
(b) 72
(c) 70
(d) 68

Use the samples below to answer questions 11 – 15.

Sample C: $8 * 2 = \frac{8 + 2}{8 - 2} = \frac{10}{6} = 1^2/_3$ $9 * 3 = \frac{9 + 3}{9 - 3} = \frac{12}{6} = 2$

11. 12 * 4 = ? (a) 2 (b) 3 (c) 8 (d) 16

12. 9 * ? = 2 (a) 6 (b) 4 (c) 3 (d) 2

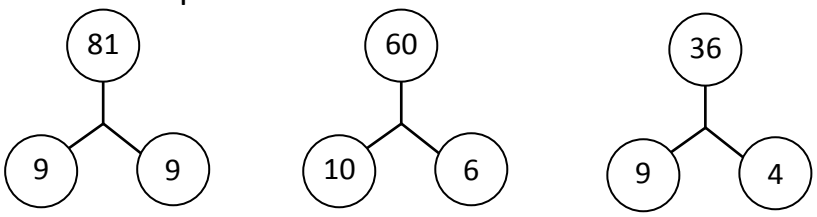
13. 30 * 6 = ? (a) $1^1/_2$ (b) 5 (c) 24 (d) 36

14. $6^1/_2$ * $5^1/_2$ = ? (a) 1 (b) $11^2/_4$ (c) 12 (d) 15

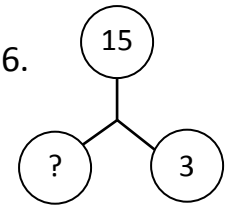
15. ? * 2 = $1^2/_3$ (a) 2 (b) 4 (c) 6 (d) 8

Use the samples below to answer questions 16 – 20.

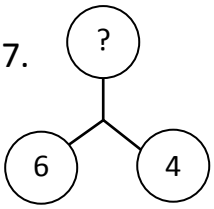
Sample D:



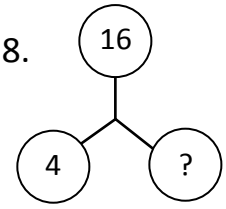
Hint: 9 x 9 = 81

16. 

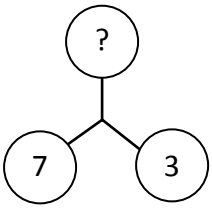
(a) 3
(b) 4
(c) 5
(d) 6

17. 

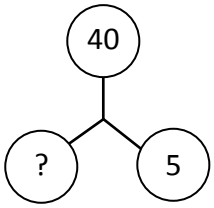
(a) 30
(b) 24
(c) 20
(d) 18

18. 

(a) 4
(b) 8
(c) 12
(d) 16

19. 

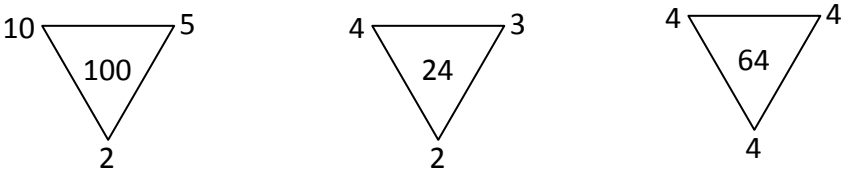
(a) 12
(b) 18
(c) 21
(d) 22

20. 

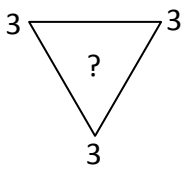
(a) 16
(b) 12
(c) 10
(d) 8

Use the samples below to answer questions 21 – 25.

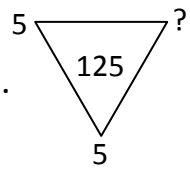
Sample E:



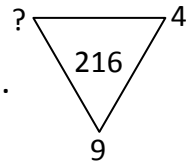
Hint: 10 x 5 x 2 = 100

21. 

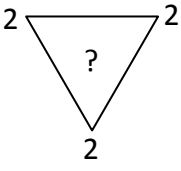
(a) 27
(b) 37
(c) 47
(d) 67

22. 

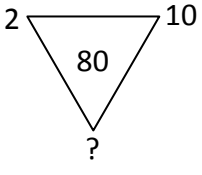
(a) 35
(b) 25
(c) 15
(d) 5

23. 

(a) 8
(b) 7
(c) 6
(d) 5

24. 

(a) 6
(b) 7
(c) 8
(d) 9

25. 

(a) 10
(b) 8
(c) 6
(d) 4

VOCATIONAL

1. _____ is a device which makes work easier. (a) car (b) lorry (c) machine (d) magnet
2. The three states of matter are _____ (a) liquid, gas, solid (b) gas, stove, liquid (c) heat, liquid, solid (d) matter, element, atom
3. Which of these does a carpenter use to make measurement? (a) tape rule (b) ruler (c) stone (d) chalk
4. The changing of liquid into gas is known as ____ (a) vaporization (b) evaporation (c) condensation (d) expansion
5. Which of these is responsible for the spreading of malaria fever? (a) bee (b) butterfly (c) housefly (d) mosquito
6. A lever has ____ main parts. (a) 1 (b) 2 (c) 3 (d) 4
7. The breakdown of the food starts in the ____ of an animal. (a) mouth (b) stomach (c) intestine (d) lungs
8. ____ is a living thing. (a) chair (b) plant (c) slippers (d) house
9. The raw materials for making soap include the following EXCEPT ___ (a) potash (b) palm oil (c) water (d) alcohol
10. The following are domestic animals EXCEPT ___ (a) cat (b) goat (c) fowls (d) snake
11. A device used in sending and receiving text messages is ____ (a) cell phone (b) DVD (c) radio (d) tape recorder
12. A device capable of accepting, storing and processing data at a high speed to give the required information is known as ____ (a) adaptor (b) computer (c) printer (d) speed
13. Hoe is to farmer as scissors is to ___ (a) teacher (b) bricklayer (c) tailor (d) musician
14. How many players make a team in a football match? (a) 11 (b) 15 (c) 10 (d) 25
15. Rainbow has how many colours? (a) 6 (b) 7 (c) 9 (d) 11
16. Dirty hands carry ____ (a) food (b) germs (c) water (d) sand

17. Sweet food can cause ___ (a) led decay (b) eye decay (c) tooth decay (d) nose decay
18. ____ is one of the ingredients used to bake cake. (a) rice (b) beans (c) yam flour (d) flour
19. The best soil for planting is ___ (a) clay (b) sandy (c) humus (d) stone
20. The instrument used for measuring temperature is ___ (a) rain gauge (b) speedometer (c) thermometer (d) wind vane
21. Which of the following protect brain from damage? (a) muscle (b) rib cage (c) skull (d) tension
22. The most important material for making cement is ___ (a) alum (b) clay (c) limestone (d) rock
23. Egg is to ____ as soap is to factory. (a) company (b) crate (c) hen (d) poultry
24. The example of tuber is ____ (a) cocoyam (b) mango (c) tomatoes (d) rice
25. A dentist is to the tooth as an optician is to the ____ (a) blood (b) bone (c) brain (d) eye

STATE COMMON ENTRANCE EXAMINATION (2013)

1. What number multiplied by 3 is equal to 138? (a) 46 (b) 43 (c) 141 (d) 64
2. A woman sold 36 apples to Ade and 5 to Sola. How many more apples had Ade than Sola? (a) 41 (b) 36 (c) 31 (d) 19
3. If p x p = 144. Find p. (a) 7 (b) 14 (c) 29 (d) 7 x 7
4. Express $^{2}/_{1000}$ as decimal. (a) 0.002 (b) 0.02 (c) 0.0002 (d) 0.00002
5. If 1 dozen pens cost N40.80k, find the cost of 10 pens. (a) N408.00 (b) N34.00 (c) N24.00 (d) N20.00
6. The radius of a circle is 7cm. Find its diameter. (a) 44cm (b) 22cm (c) 3.5cm (d) 14cm
7. Evaluate: 987 x 400. (a) 39,480 (b) 394,800 (c) 49,800 (d) 383,800
8. How much will 1,000.00 amount to in 22 years at $13^{1}/_{2}$ simple interest. (a) N270.00 (b) N540 (c) N1,270.00 (d) N1,540.00
9. Which three month comes directly after July? (a) March, November, August (b) May, June, April (c) June, July, August (d) August, September, October
10. Complete the series: 4, 8, 12, 16, ___, 28. (a) 20, 25 (b) 25, 18 (c) 20, 24 (d) 18, 20
11. Increase 720 by 20% (a) 740 (b) 144 (c) 864 (d) 576
12. Write $^{7}/_{20}$ as a percentage. (a) 35% (b) 45% (c) 50% (d) 20%
13. Change 0.48 to percentage (a) 24% (b) 480% (c) 240% (d) 48%
14. Calculate the area of rectangular shape with 14cm by 8cm. (a) 121cm² (b) 131cm² (c) 112cm² (d) 211cm²
15. What must be added to the sum of 3,072 and 59 to make 5,217? (a) 1,086 (b) 3,131 (c) 2,086 (d) 2,145
16. A market woman buys 10 oranges for N80 and sells them for N10 each, what is her percentage profit or loss? (a) 20% loss (b) 25% profit (c) 20% profit (d) 25% loss
17. A car travels at a speed of 300km per hour in 3 hours. What is the distance covered? (a) 0km (b) 70km (c) 800km (d) 900km
18. The Naira note with the picture of Nnamdi Azikwe is ____ (a) N1,000.00 (b) N500.00 (c) N200.00 (d) N100.00

19. From Monday to Friday, Mr. Olu used 60 litres of petrol for his journey, find the litres of petrol used everyday. (a) 10 litres (b) 11 litres (c) 12 litres (d) 15 litres
20. From N1,200.00, take away N800.00. (a) N100.00 (b) N200.00 (c) N400.00 (d) N600.00
21. Write seven thousand and sixty in figure. (a) 7,600 (b) 7,060 (c) 7006 (d) 706
22. What is the value in the box? 2 + 8 + ☐ = 20. (a) 30 (b) 28 (c) 22 (d) 10
23. The number of days in 2 weeks is (a) 7 (b) 10 (c) 14 (d) 21
24. $^{3}/_{5} - {}^{1}/_{3}$ is ___ (a) $^{3}/_{5}$ (b) $^{1}/_{3}$ (c) $^{4}/_{15}$ (d) $^{2}/_{15}$
25. What is the place value of 8 in 185? (a) 80 (b) 18 (c) 8 (d) 2
26. If 402 + ☐ = 782, find ☐ (a) 360 (b) 370 (c) 380 (d) 390
27. 27 x 12 is ____ (a) 287 (b) 297 (c) 314 (d) 324
28. Square root of 81 is ____ (a) 10 (b) 9 (c) 8 (d) 7
29. What is 156 – 127? (a) 11 (b) 12 (c) 13 (d) 14
30. Complete 30, 45, 60, ___, 90, 105. (a) 65 (b) 70 (c) 75 (d) 85
31. Express 625 in Roman numerals. (a) CDVX (b) CDXV (c) DCXXV (d) DCVX
32. Reduce $^{240}/_{360}$ to its lowest term. (a) $^{3}/_{5}$ (b) $^{2}/_{5}$ (c) $^{2}/_{3}$ (d) $^{1}/_{3}$
33. Change to improper fraction $22^{1}/_{2}$. (a) $^{29}/_{2}$ (b) $^{25}/_{2}$ (c) $^{46}/_{2}$ (d) $^{45}/_{2}$
34. Multiply 245 by 15. (a) 6,753 (b) 7,536 (c) 3,675 (d) 5,376
35. Add up N5.28 + N10.05 + N8.63. (a) 23.96 (b) 32.96 (c) 23.69 (d) 43.34
36. Find the HCF of 36, 48 and 12. (a) 36 (b) 48 (c) 12 (d) 144
37. The value of 2 x 3 x 5^2 is ___ (a) 400 (b) 312 (c) 150 (d) 60
38. The least common multiple of 18 and 24 is ____ (a) 6 (b) 72 (c) 432 (d) 42
39. Ojo and Bola shared N4,500.00 in the ratio 3:2, how much did Bola receive? (a) N1,800 (b) N2,700.00 (c) N22,500.00 (d) N27,000.00
40. Which one is the correct prime factor of 72 in the index form? (a) $2^3 \times 2^4$ (b) $2^3 \times 3^2$ (c) $2^2 \times 3^2$ (d) $2^3 \times 3^4$
41. 11 squared is ____ (a) 169 (b) 144 (c) 132 (d) 121
42. 2.305 + 1.046 is ____ (a) 1.249 (b) 1.259 (c) 3.341 (d) 3.351
43. Convert $^{1}/_{5}$ to decimal number. (a) 2.0 (b) 0.2 (c) 0.02 (d) 0.002
44. $1^{1}/_{4} - {}^{1}/_{2}$ gives (a) – ½ (b) ¼ (c) ½ (d) ¾

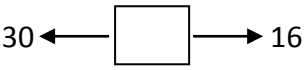
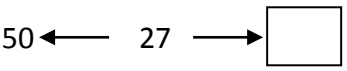
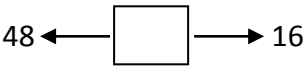
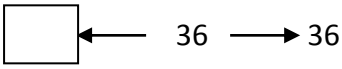
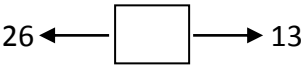
45. Adam spent N80.00 of his pocket money and had N30.00 left. What was his initial money? (a) N30.00 (b) N50.00 (c) N100.00 (d) N110.00
46. After spending $^1/_3$ of his pocket money. Ade had N150.00 left. How much had he at the beginning? (a) N450.00 (b) N255.00 (c) N75.00 (d) N50.00
47. Which number occurs most in 3, 4, 5, 6, 5, 4, 5? (a) 3 (b) 4 (c) 5 (d) 6
48. Change 101.2 to the nearest whole number. (a) 100 (b) 101 (c) 1012 (d) 1021
49. How many centimeters are there in 4 meters? (a) 4cm (b) 20cm (c) 40cm (d) 400cm
50. If 8 + k = 15, find k? (a) 72 (b) 7 (c) 14 (d) 38

QUANTITATIVE

Use the samples below to answer questions 1 – 5.

Samples:

Hint: 5 – 3 = 2

1.  (a) 46 (b) 14 (c) 24 (d) 26
2.  (a) 24 (b) 77 (c) 23 (d) 70
3.  (a) 24 (b) 32 (c) 31 (d) 40
4.  (a) 72 (b) 64 (c) 38 (d) 48
5.  (a) 16 (b) 14 (c) 13 (d) 12

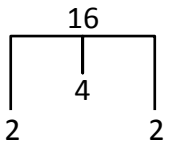
"IMPORTANCE" is represented by "0123456789".

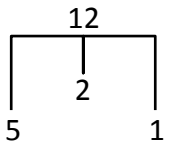
Use the code to answer questions 6 – 10.

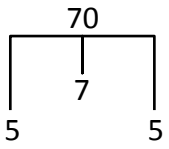
6. Represent "PORT" by number __ (a) 3425 (b) 2453 (c) 7432 (d) 2345
7. "54607" is represent by ___ (a) TRAIN (b) ATEIN (c) ATENI (d) AINTE
8. What is "PAIN" in the code? (a) 6052 (b) 7206 (c) 2607 (d) 2560
9. "NITE" is represented by the code (a) 7059 (b) 5970 (c) 0975 (d) 2560
10. "2675" is representing ___ (a) NATP (b) PANT (c) ANTP (d) TANP

Use the samples below to answer questions 11 – 15.

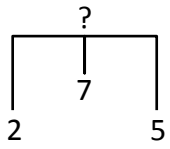
Samples:



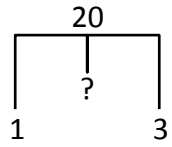




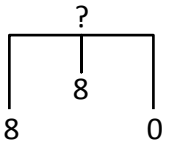
Hint: 2(5 + 1) = 12

11. 

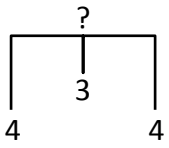
(a) 34
(b) 40
(c) 42
(d) 49

12. 

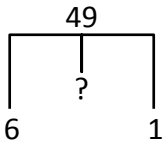
(a) 5
(b) 7
(c) 9
(d) 10

13. 

(a) 40
(b) 17
(c) 10
(d) 64

14. 

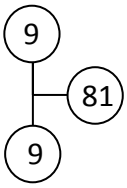
(a) 20
(b) 23
(c) 24
(d) 26

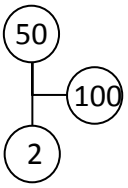
15. 

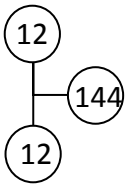
(a) 9
(b) 7
(c) 4
(d) 1

Study the samples below to answer questions 16 – 20.

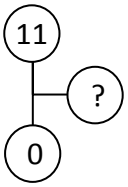
Samples:



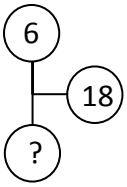




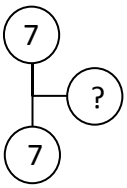
Hint: 9 x 9 = 81

16. 

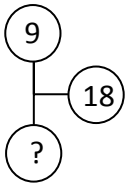
(a) 0
(b) 4
(c) 6
(d) 7

17. 

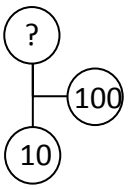
(a) 5
(b) 4
(c) 3
(d) 2

18. 

(a) 49
(b) 40
(c) 34
(d) 14

19. 

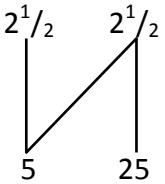
(a) 3
(b) 2
(c) 1
(d) 0

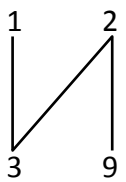
20. 

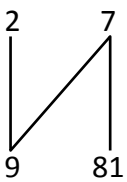
(a) 5
(b) 8
(c) 9
(d) 10

Study these samples below to answer questions 21 – 25.

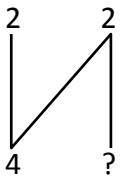
Samples:



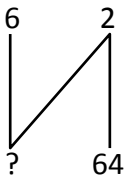




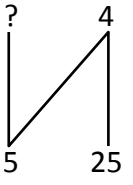
Hint: 1 + 2 = 3, $3^2 = 9$

21. 

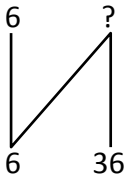
(a) 8
(b) 16
(c) 24
(d) 32

22. 

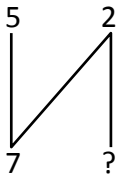
(a) 8
(b) 12
(c) 16
(d) 18

23. 

(a) 8
(b) 7
(c) 6
(d) 1

24. 

(a) 0
(b) 7
(c) 8
(d) 9

25. 

(a) 42
(b) 44
(c) 49
(d) 50

VOCATIONAL

1. Sleeping sickness in animals is caused by the bite of ____ (a) tsetse fly (b) cockroach (b) mosquito (c) man
2. Computers are classified into ____ generations. (a) 2 (b) 3 (c) 4 (d) 5
3. The part of a computer which you can see and touch is called ___ (a) hardware (b) memory (c) program (d) software
4. Which of these is an output device of computer? (a) CPU (b) keyboard (c) mouse (d) printer
5. Health services in the community can be classified into one of the following: (a) hospital and dispensary (b) hospital and clinic (c) traditional and hospital (d) traditional and orthodox
6. Regular contact with one of the following group can make you get HIV/AIDS (a) drivers (b) prostitutes (c) teachers (d) doctors
7. The engine of a refrigerator is the (a) thermostat (b) compressor (c) element (d) transformer
8. Digestion of food in the body is aided by organic catalyst called ___ (a) gastric juice (b) enzymes (c) saliva (d) amino acids
9. The unit of measuring the volume of liquid is ___ (a) litres (b) cubic metres (c) grams (d) kilograms
10. The hinge joint is found in one of the following parts of the body. (a) elbow (b) shoulder (c) neck (d) hip
11. Eye is a sense organ of ___ (a) hearing (b) sight (c) smelling (d) feeling

12. _____ contains all classes of food in the appropriate proportion. (a) vitamins (b) proteins (c) balanced diet (d) yam and beans
13. ____ prescribes drugs in the hospital. (a) teacher (b) lawyer (c) medical doctor (d) coach
14. Energy lost during hard work can be regained through ____ (a)dance (b) rest (c) talk (d) walk
15. When water is heated for a long time it changes into ____ (a) solid (b) block (c) ice (d) steam
16. The instrument used to measure the hotness and coldness of the body is known as ____ (a) temperature (b) computer (c) barometer (d) thermometer
17. Iron that attracts other iron is called ___ (a) key (b) G.S.M (c) magnet (d) bottle
18. _____ is anything that has weight and occupies space. (a) gas (b) liquid (c) air (d) matter
19. The three main types of soil are _____ and ____ (a) sandy, loamy and clay (b) gravel, slit and clay (c) cement, sand and gravel (d) humus, sand and sounds
20. The plants that grow in places where they are not wanted are called ___ (a) weeds (b) wedge (c) wed (d) wedding
21. Lice are small wingless ____ (a) animals (b) birds (c) insects (d) machines
22. What is germ? (a) a disease causing organism (b) an insect (b) a disease (d) a micro organism
23. It is important to prevent getting cold by ___ (a) wearing sweater (b) doing an exercise (c) bathing with cold water (d) sleeping
24. The first aid box contains all the following except ___ (a) scissors (b) plaster (c) iodine (d) sugar
25. If you are sick, who is supposed to take you to the hospital? (a) parents (b) friends (c) energy (d) nobody

STATE COMMON ENTRANCE EXAMINATION (2014)

Instruction: *Answer all questions.*

1. What is the place value of the number circled? 2(6)4345? (a) six hundred (b) six thousand (c) sixteen thousand (d) sixty thousand
2. Find the smallest number such that when divided by 18, the remainder is 17, when divided by 20, the remainder is 19 and when divided by 24, the remainder is 23. (a) 359 (b) 360 (c) 361 (d) 7429

   According to the population census held in Nigeria in March 2003, National Population Census stated that the male and female populations in Lagos State were 4,678,020 and 4,335,514 respectively.
3. What is the difference between the place values "8" and "1" in both sexes? (a) 7990 (b) 8002 (c) 8006 (d) 8034
4. The LCM and HCF of 30 and a certain number are 150 and 5 respectively. Find the number. (a) 25 (b) 35 (c) 90 (d) 900
5. Two numbers are in the ratio 3:8. The larger number is 96, find the sum of the numbers. (a) 226 (b) 132 (c) 36 (d) 26
6. Mohammed, Ugochukwu and Kolawole pay N20,000, N40,000 and N60,000 respectively to start a business. At the end of the year, they share a profit of 7.2million in the ratio of the amounts they contributed. How much does the least receive? (a) 0.2 million (b) 0.12 million (c) 1.12 million (d) 1.2 million
7. The population of children living with HIV/AIDS in Osun and Ekiti States is 42,000 and 52,000 respectively. What is the ratio of the children living with HIV/AIDS in Ekiti to Osun states? (a) 21 : 26 (b) 21 : 47 (c) 26 : 21 (d) 47 : 21
8. The number of cars on Ipaja-Ayobo road in 2007 was 2,500. In 2014, the number is 4,000. Calculate the percentage increase. (a) 40.0% (b) 60.0% (c) 62.5% (d) 160.0%
9. Find the simple interest on N18,000.00 for 8 months at $7^1/_2$%. (a) N90.00 (b) N1,080.00 (c) N1,800.00 (d) N1,090.00
10. Find the simple interest on N1,200 for 219 days at 5%. (a) N30 (b) N35 (c) N36 (d) N40

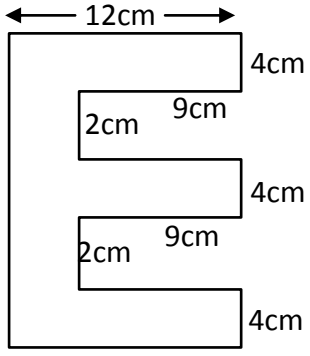
11. Write in figure: eight hundred and fifteen thousand, two hundred and seventy-five. (a) 815275 (b) 812547 (c) 815725 (d) 815257
12. Simplify: (119 x 8) – (119 x 7). (a) 120 (b) 119 (c) 118 (d) 117
13. What is the highest common factor of 6, 15 and 12? (a) 6 (b) 5 (c) 4 (d) 3
14. Two farmers took some chickens to the market in the ratio 3:4. The first farmer took 36 chickens. How many chicken were taken to the market altogether? (a) 64 chickens (b) 74 chickens (c) 84 chickens (d) 94 chickens
15. A trader buys 1.2 tonnes of flour, express this in kilogrammes. (a) 1200kg (b) 1120kg (c) 120kg (d) 12kg
16. Write down the following numbers as a single number $2^3 \times 3^2$. (a) 90 (b) 72 (c) 63 (d) 6
17. A boy and a girl share N80.00 in the ratio 3:5. How much does each get? (a) boy N30 girl N50 (b) girl N30 boy N50 (c) girl N50 boy N30 (d) boy N50 girl N30
18. The table shows the types of food some children like to eat.

FOOD	Rice	Beans	Yam	Dodo	Potato
No. of Children	25	7	11	19	13

How many children were used for this sample? (a) 60 (b) 65 (c) 75 (d) 85

19. A map was drawn with the scale of 75km to the cm. Find in centimeters, the distance of the map between Lakin and Labule 15km apart. (a) 390cm (b) 360cm (c) $^3/_4$cm (d) $^1/_5$cm
20. The weight of a baby at birth was 3,450 grammes. If it gained 140 grammes in weight per week, what would be its weight after 15 weeks? (a) 3605g (b) 550g (c) 5055g (d) 5505g
21. How many times is 13 contained in 1846? (a) 23998 (b) 1859 (c) 1833 (d) 142
22. Simplify $^3/_7 \times {}^1/_2 - {}^1/_4 \times {}^7/_9$. (a) $^3/_{273}$ (b) $^5/_{252}$ (c) $^7/_{18}$ (d) $^8/_{21}$
23. The number of children per family in a certain community is in the ratio 1:3. If the number of children is 150, how many families are there in this community? (a) 50 (b) 49 (c) 48 (d) 38
24. Reduce 850g : $1^3/_2$kg in its lowest team. (a) 90 : 17 (b) 85 : 17 (c) 17 : 35 (d) 5:1

25. A rectangular field 110.6m long and 49.2m wide is used for cassava plantation. Find the area of the field. (a) 61.4m² (b) 159.8m² (c) 1459.7m² (d) 5,441.6m²
26. All these are prime numbers EXCEPT ___ 2, 3, 5, 7, 9, 11, 13, 17 and 19. (a) 13 (b) 11 (c) 9 (d) 7
27. An express train leaves Lagos at 6.30am on Monday. It arrives in Maiduguri at 11:00am on Wednesday. How long does the journey take? (a) 20hurs. 30mins (b) 30hrs. 30mins (c) 40hrs. 30mins (d) 50hrs. 30mins
28. Find the average of the following ages: 5 years, 6 years, 8 years, 5 years. (a) 5 (b) 6 (c) 7 (d) 8
29. Find the sum of these numbers 347, 265, 133 and 1005. (a) 1650 (b) 1750 (c) 1850 (d) 1950
30. 5,963 spectators watched a football match. 2780 were men, 1946 were women, while the rest were boys and girls. How many were boys and girls? (a) 1248 (b) 1246 (c) 1237 (d) 1236
31. Find the product of 1625 and 578. (a) 939450 (b) 939350 (c) 939340 (d) 939250
32. What is the difference between $2^{3}/_{5}$ and $4^{1}/_{2}$? (a) $6^{7}/_{10}$ (b) $2^{1}/_{10}$ (c) $1^{9}/_{10}$ (d) $1^{3}/_{10}$
33. A rectangular tank has sides 15cm, 20cm and 30cm. It is full of water. How many litres does it hold? (a) 9 litres (b) 8 litres (c) 6 litres (d) 5 litres
34. Find the area of this shape.



(a) 90cm² (b) 92cm² (c) 105cm² (d) 156cm²

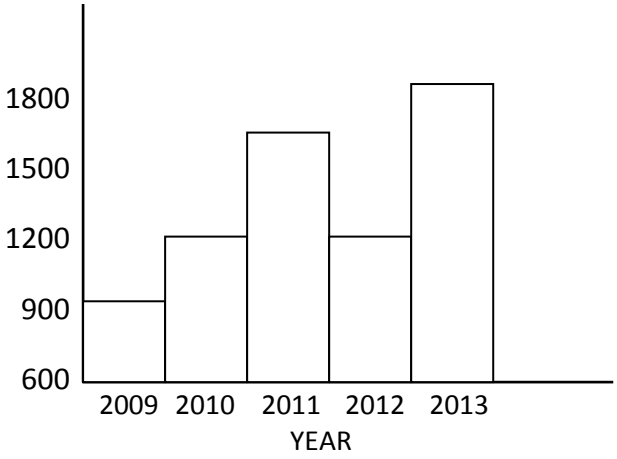
35. Find the volume of cuboid with sides 16cm, 12cm and 20.3cm. (a) 389.76cm² (b) 3897.6cm² (c) 9897.6cm³ (d) 38976cm³
36. A car uses petrol at the rate of 12km per litres. How many kilometers will it cover with 72 litres? (a) 1080km (b) 864km (c) 84km (d) 6km

37. In a right angled triangle ABC with the right angle at B, AC = 17cm and BC = 8cm. Find AB. (a) 15 (b) 14 (c) 13 (d) 12
38. A water tank has sides 80cm, 95cm and 72.4cm. how many litres of water does it hold when full? (a) 5502cm³ (b) 550.241 litres (c) 550.240cm³ (d) 550.24 litres
39. Change 4hrs. 55mins to minutes. (a) 265 mins (b) 275 mins (c) 285 mins (d) 295 mins
40. How many days are there form 21st January to 16th May, 2012? (a) 117 (b) 116 (c) 115 (d) 114
41. A quadrilateral is made by joining a rectangle with a right angled triangle. If the lengths of the parallel lines are 15cm and 17cm and the distance between them is 8cm, what is the area of the shape formed? (a) 28cm² (b) 32cm² (c) 64cm² (d) 128cm²

    Stopwatch that was used to determine the time for four (4) athletes finished the race in a school inter-house sports competition gave this result.

    Runner:
    (a) 9.97
    (b) 11.59
    (c) 9.79
    (d) 10.34
42. Who came last in the race? (a) Runner A (b) Runner B (c) Runner C (d) Runner D
43. Find b if $^1/_6b - 4 = 3$. (a) 18 (b) 24 (c) 42 (d) 81
44. Calculate the circumference of a circle which the radius is 63cm (Take $\pi = {}^{22}/_7$). (a) 269cm² (b) 396cm² (c) 359cm² (d) 349cm²
45. One of the properties of an isosceles triangle is that ___ (a) none of the three sides is equal (b) it has three equal angles (c) it has three equal sides (d) two opposite sides are equal
46. What is the sum of angle at a point? (a) 420° (b) 360° (c) 180° (d) 90°
47. Find the median of the following scores: 1, 3, 4, 2, 2, 3, 5, 6, 7. (a) 3 (b) 4 (c) 5 (d) 6

    The histogram below shows the population of a particular town from 2009 to 2013.



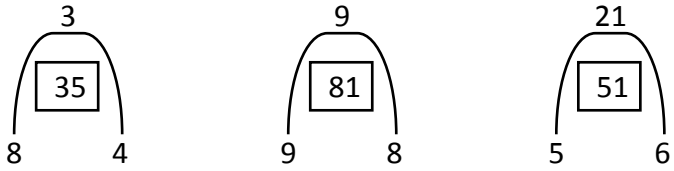
48. Mention the two years that have the same population. (a) 2013 and 2013 (b) 2011 and 2013 (c) 2010 and 2013 (d) 2010 and 2012

49. Find the mean of the following numbers: 25, 27, 31, 29, 25, 27, 25. (a) 29 (b) 28.5 (c) 28 (d) 27

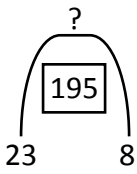
50. Find the mode in the following numbers: 25, 27, 29, 25, 26, 30, 25. (a) 25 (b) 26 (c) 27 (d) 29

QUANTITATIVE APTITUDE TEST

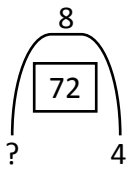
Use the samples below to answer questions 1 – 5.



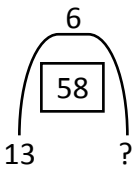
Hint: (8 x 4) + 3 = 35

1. 

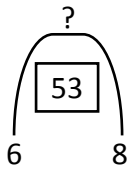
(a) 10
(b) 11
(c) 15
(d) 31

2. 

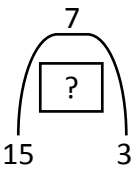
(a) 32
(b) 28
(c) 25
(d) 16

3. 

(a) 3
(b) 4
(c) 7
(d) 19

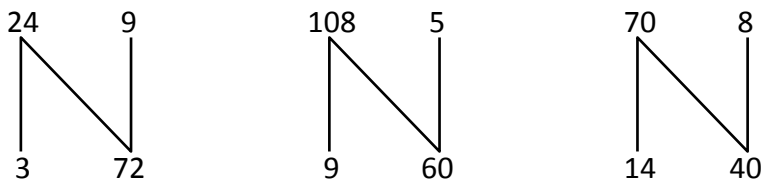
4. 

(a) 2
(b) 3
(c) 5
(d) 14

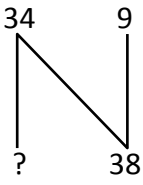
5. 

(a) 52
(b) 45
(c) 42
(d) 21

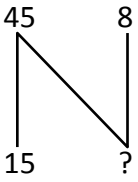
Use the samples below to answer questions 6 – 10.



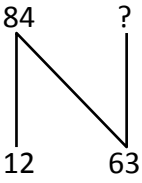
Hint: $\frac{24}{3} = \frac{72}{9}$

6. 

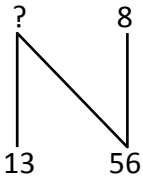
(a) 12
(b) 15
(c) 17
(d) 28

7. 

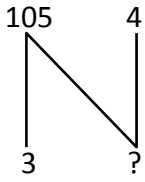
(a) 24
(b) 23
(c) 21
(d) 15

8. 

(a) 49
(b) 29
(c) 39
(d) 9

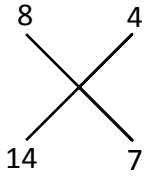
9. 

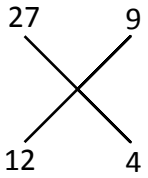
(a) 56
(b) 73
(c) 88
(d) 91

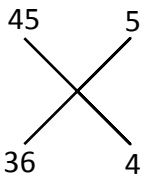
10. 

(a) 199
(b) 140
(c) 108
(d) 12

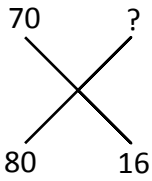
Use the samples below to answer questions 11 – 15.



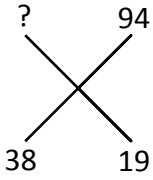




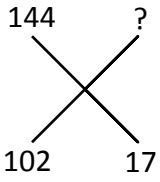
Hint: $\frac{8}{4} = \frac{14}{7}$

11. 

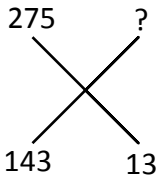
(a) 14
(b) 13
(c) 12
(d) 11

12. 

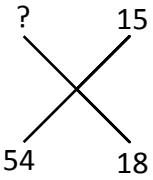
(a) 136
(b) 169
(c) 175
(d) 188

13. 

(a) 24
(b) 28
(c) 27
(d) 25

14. 

(a) 14
(b) 25
(c) 26
(d) 28

15. 

(a) 36
(b) 42
(c) 45
(d) 48

Use the samples below to answer questions 16 – 18.

Hint: (9 x 4) + 3 = 39

3	39
4	9

7	27
5	4

3	9
3	2

16.

5	?
7	2

(a) 8
(b) 10
(c) 19
(d) 14

17.

12	30
?	6

(a) 3
(b) 36
(c) 24
(d) 38

18.

?	40
3	11

(a) 73
(b) 54
(c) 10
(d) 17

Use the samples below to answer questions 19 – 22.

(4 G 5) = 20 (10 H 2) = 5

Hint: G = x, H = ÷

19. (18 G 3) = ? (a) 21 (b) 6 (c) 54 (d) 183

20. (38 H ?) = 19 (a) 19 (b) 2 (c) 57 (d) 122

21. (14 G ?) = 70 (a) 980 (b) 56 (c) 48 (d) 5

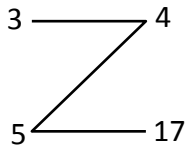
22. ((3 G 4) H 2) = ? (a) $1^1/_2$ (b) 6 (c) 17 (d) 24

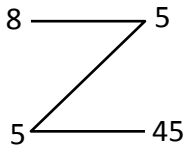
Complete the numbers in questions 23 – 24.

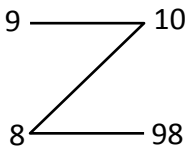
23. 6, 10, 14, 18, ____, ____ (a) 24, 20 (b) 24, 28 (c) 22, 26 (d) 21, 25

24. 209, 208, 206, 203, ___ (a) 200 (b) 199 (c) 198 (d) 197

Samples:

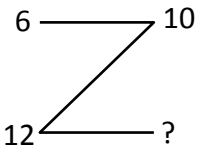






Hint: (3 x 4) + 5 = 17

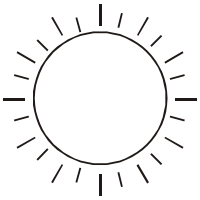
25.



(a) 74
(b) 73
(c) 72
(d) 71

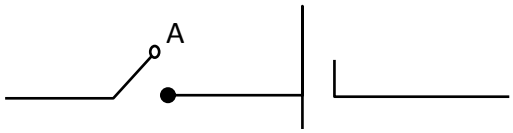
BACIS SCIENCE

1. Safety rules are designed for _____ (a) protection (b) education (c) conservation (d) conduction
2. The process by which water changes to gas is called ____ (a) condensation (b) vaporization (c) saturation (d) sublimation



3. The symbol above is used to represent ____ on weather chart. (a) moonlight (b) rainfall (c) sunlight (d) cloud cover
4. Fruit and vegetables are rich in ____ (a) carbohydrates (b) fats (c) protein (d) vitamin
5. Rainbow colours does NOT include ___ (a) pink (b) yellow (c) violet (d) red

6. To make a doormat we need all these materials EXCEPT ___ (a) fibre (b) wood (c) cardboard (d) glue
7. Magnets can be found in all these EXCEPT ___ (a) radio (b) flask (c) electric bell (d) loud speaker
8. Materials use in shape construction include all EXCEPT (a) paper (b) wood (c) metal (d) water
9. Preventive measures are taken on home appliances to ___ (a) avoid damage (b) enhance damage (c) stop functioning (d) increase friction
10. Organs of the body work together to form ____ (a) vessels (b) systems (c) tissues (d) cells
11. What would you do to an expired tinned milk? (a) mix it with another milk (b) boil it to make it better (c) throw it away (d) use it
12. All these are part of a flower EXCEPT ___ (a) stigma (b) ovule (c) ovary (d) scrotum
13. Which of these is an example of air pollutants? (a) smoke (b) metal (c) detergent (d) manure



14. The part labeled A in the diagram above is ___ (a) bulb (b) switch (c) fuse (d) cell
15. Which of these is NOT a product of information and communications technology? (a) GSM phones (b) DVD players (c) Pressing iron (d) DSTV
16. An instrument used by scientists to see tiny objects that cannot be seen with ordinary eyes is called ___ (a) camera (b) decoder (c) telescope (d) ovary
17. During pregnancy, the foetus is developed in the ____ (a) womb (b) vulva (c) vagina (d) ovary
18. The state of development of butterfly that feeds on leaves is the (a) egg (b) caterpillar (c) maggot (d) pupa
19. Our environment quality can be improved by ____ (a) littering our surrounding (b) indiscriminate dumping of refuse (c) planting of flowers (d) defecating on the road

20. All the following are water projects EXCEPT ___ (a) river basin (b) dam (c) water works (d) thermal station
21. Crude oil is refined to produce ____ (a) petrol, diesel, gas (b) food, engine, oil (c) sand, gas, jelly (d) Vaseline, gas, water
22. During respiration, exchange of gasses takes place in the ____ (a) liver (b) heart (c) lungs (d) trachea
23. Which of these is NOT a process of producing electricity? (a) thermal process (b) hydro process (c) solar process (d) power process
24. One of the following combinations of materials is needed for local soap making. (a) paper, ashes and palm kernel oil (b) banana, ashes and palm oil (c) banana, ashes and groundnut oil (d) wood, ashes and engine oil
25. Another name for doormat is ____ (a) hand mat (b) knee mat (c) house mat (d) foot mat

STATE COMMON ENTRANCE EXAMINATION (2015)

Instruction: *Answer ALL questions.*

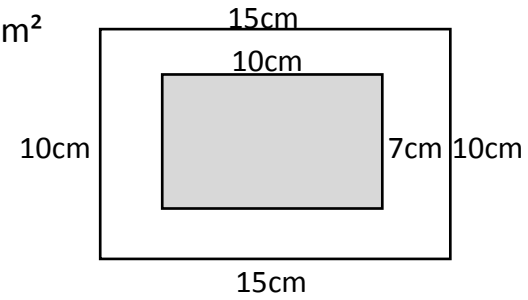
1. Write as decimal $7^{9}/_{10}$ (a) 9.7 (b) 7.9 (c) 7.0 (d) 0.79
2. Add $1^{3}/_{8} + 2^{3}/_{4}$ (a) $4^{1}/_{8}$ (b) $3^{9}/_{32}$ (c) $3^{1}/_{2}$ (d) $3^{1}/_{12}$
3. Mary and Janet shared N1,200 in the ratio 3:5. How much does Mary take? (a) N750 (b) N675 (c) N550 (d) N450
4. By how much is CMXI less than MCIX? (a) CXVCIII (b) CXIIICV (c) CXCVIII (d) CCXVIII
5. Write in figures: Two billion, One hundred and eighty-six million, four hundred and seventy-one thousand, five hundred and thirty two. (a) 2,186,471,532 (b) 201,864,701,532 (c) 21,008,640,071,532 (d) 210,086,475,032
6. Express 9 as a ratio of 27 (a) 1:2 (b) 1:3 (c) 3:1 (d) 3:1
7. Change $8^{3}/_{6}$ to improper fraction. (a) $^{51}/_{6}$ (b) $^{35}/_{6}$ (c) $^{22}/_{6}$ (d) $^{4}/_{6}$
8. In a class of 5 pupils, 70% passed in the final examination. How many pupils failed? (a) 30 (b) 20 (c) 15 (d) 10
9. Approximate 645 to the nearest hundred. (a) 600 (b) 640 (c) 642 (d) 6450
10. Find the LCM of 42 and 96. (a) 762 (b) 672 (c) 276 (d) 267
11. A job takes 30 men for 15 days to complete. How many men working at the same rate are needed to complete the job in 10 days? (a) 45 men (b) 40 men (c) 35 men (d) 25 men
12. If $^{x}/_{15} = {}^{2}/_{3}$, what is x? (a) 10 (b) 25 (c) 30 (d) 45
13. Reduce this fraction $^{196}/_{256}$ to its lowest term. (a) $^{4}/_{6}$ (b) $^{49}/_{64}$ (c) $^{22}/_{25}$ (d) $^{25}/_{64}$
14. What is the square root of 169? (a) 10 (b) 11 (c) 12 (d) 13
15. Change improper to mixed number: $^{100}/_{3}$ (a) $23^{1}/_{3}$ (b) $33^{1}/_{2}$ (c) $33^{1}/_{3}$ (d) $35^{1}/_{2}$
16. Simplify 1628 – 520 + 809. (a) 1919 (b) 1917 (c) 1915 (d) 1819
17. Take away 24.55 from the sum of 18.68 and 19.53. (a) 13.65 (b) 13.66 (c) 13.80 (d) 14.00
18. N60 is shared among three boys in the proportion 9:6:3. How much does each boy get? (a) N90, N60, N30 (b) N50, N60, N90 (c) N30, N20, N10 (d) N10, N20, N30

19. Find the cost of four score of plate at 50k each and three dozens of spoon at 20k each. (a) N47.20 (b) N56.20 (c) N58.00 (d) N67.00
20. A man who had 500 shares in a company received a divided of N2,500 of trading per rate. What rate was it shared? (a) 5 (b) 10 (c) 15 (d) 20
21. A dealer bought a car for N6,000 and sold for N4,800. Find his loss percent. (a) 30% (b) 25% (c) 20% (d) 15%
22. I have 60 mangoes, I gave 10 to Ayo and 5 to Ola. What fraction did I give away? (a) $^{3}/_{12}$ (b) $^{15}/_{60}$ (c) $^{1}/_{4}$ (d) $^{10}/_{60}$
23. What is the sum of 6^2 and 2^4? (a) 56 (b) 50 (c) 52 (d) 42
24. Multiply 15.218 by 6. Give your answer correct to 2 decimal places. (a) 913.10 (b) 913.08 (c) 91.308 (d) 91.31
25. Convert 101_2 to base 10_{10}. (a) 6_{10} (b) 5_{10} (c) 4_{10} (d) 2_{10}
26. Convert 13_{ten} to base 2. (a) 1101_2 (b) 1110_2 (c) 1011_2 (d) 1111_2
27. Convert 111_{two} to base 10_{10}. (a) 12_{10} (b) 9_{10} (c) 7_{10} (d) 5_{10}
28. Simplify $2^{1}/_{4} + 1^{1}/_{3} + {}^{5}/_{6}$. (a) $3^{7}/_{12}$ (b) $4^{5}/_{12}$ (c) $8^{5}/_{12}$ (d) $8^{7}/_{12}$
29. Take away 6kl 8060l from 18kl 7504l. (a) 10kl 6444l (b) 11kl 6444l (c) 11kl 9444l (d) 12kl 9444l
30. How much is 3 more that $1^{1}/_{2}$ multiplied by $^{2}/_{3}$? (a) 1/2 (b) 2 (c) 3 (d) 4
31. Find the missing numbers. 6 2 6

$$\begin{array}{r} -\ x\ \ x\ x \\ \hline 3\ 2\ 3 \\ \hline \end{array}$$

(a) 203 (b) 223 (c) 303 (d) 322

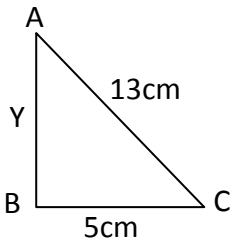
32. Find the area of the unshaded portion in the diagram below. (a) 150cm² (b) 110cm² (c) 80cm² (d) 70cm²



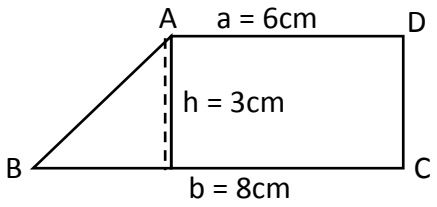
33. The weights of five sacks of beans are 45kg, 42kg, 40kg, 36kg and 37kg respectively, find the average weight of the sacks of beans. (a) 37kg (b) 40kg (c) 42kg (d) 44kg

34. A man who earns N880 in a month has to pay 25k as tax on each Naira. How much tax does he pay for the month? (a) N210 (b) N230 (c) N220 (d) N855

35. Find the unknown side in the following right-angled triangle. (a) 14cm (b) 15cm (c) 12cm (d) 10cm



36. Find the area of the trapezium below. (a) 30cm (b) 26cm (c) 21cm (d) 15cm



37. Calculate the simple interest on N200 borrowed for 1 year at 2 percent per annum. (a) N5 (b) N4 (c) N3 (d) N2

38. A debt of N450 is to be paid in monthly installments of N50; how many months will it take to finish paying the debt? (a) 1 year (b) 10 months (c) 9 months (d) $8^1/_2$ months

39. Convert 0.8 ton to kg. (a) 8kg (b) 80kg (c) 800kg (d) 8000kg

40. Find the circumference of a circle with radius $3^1/_2$cm. ($\pi = {}^{22}/_7$). (a) 88cm (b) 71cm (c) 44cm (d) 22cm

41. A man travels at a distance of 280km in 4 hours. Find his average speed in km/h. (a) 60km/h (b) 65km/h (c) 70km/h (d) 71km/h

42. A train travels at the speed of 48km per hour, how long will it take to travel 72mk? (a) $1^3/_4$hrs (b) $1^1/_2$hrs (c) $2^1/_2$hrs (d) 3hrs

43. Find the mode in the following numbers – 3, 2, 8, 5, 7, 12, 9, 8. (a) 10 (b) 8 (c) 12 (d) 5

44. Find the mean of the following numbers: 22, 25, 23, 22. (a) 20 (b) 22 (c) 23 (d) 32

45. The ages of some teachers in a school are 30 years, 35 years, 60 years, 46 years, 29 years, 50 years, 30 years and 40 years. Find the mean age. (a) 320 (b) 160 (c) 80 (d) 40

46. Solve these equations: 4b + 6 = 26. (a) 8 (b) 7 (c) 6 (d) 5

47. If $^{5x}/_{2} = 10$. Find x. (a) 4 (b) 5 (c) 6 (d) 7

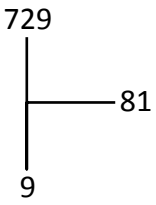
48. If x = 5, y = 4, ≠ = 2, find the value of $(x + y + ≠)^2$. (a) 100 (b) 110 (c) 120 (d) 121

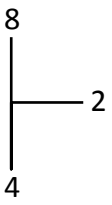
49. 13 = 4r, what is r? (a) $5^1/_2$ (b) $4^1/_2$ (c) $3^1/_3$ (d) $3^1/_4$

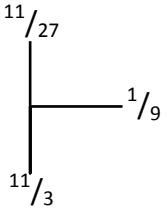
50. What must be added to 2167 to make 4,000? (a) 1733 (b) 1833 (c) 1923 (d) 1943

QUANTITATIVE REASONING

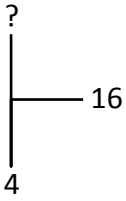
Samples:



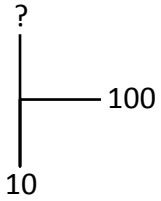




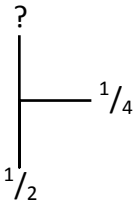
Hint: $\frac{8}{2} = 4$

1. 

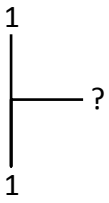
(a) 4
(b) 20
(c) 60
(d) 64

2. 

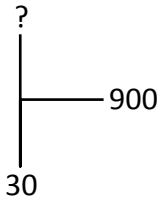
(a) 1000
(b) 100
(c) 10
(d) 1

3. 

(a) $^1/_6$
(b) $^1/_7$
(c) $^1/_8$
(d) $^1/_{10}$

4. 

(a) 4
(b) 3
(c) 2
(d) 1

5. 

(a) 27000
(b) 2700
(c) 270
(d) 30

Sample 2:

	X	Y	Z
a	6	12	S
b	5	7	14
c	15	7	4

Find letter S
b = 5 + 7 + 14 = 26
12 + 6 + S = 26
S = 26 – 18
S = 8

	X	Y	Z
a	9	4	6
b	K	7	7
c	5	8	6

Find letter K
b = 9 + 4 + 6 = 19
K + 7 + 7 = 19
K = 19 – 14
K = 5

6.

x	7	9
9	9	6
7	8	9

(a) 10
(b) 8
(c) 6
(d) 5

7.

20	50	30
65	10	25
15	40	x

(a) 15
(b) 25
(c) 38
(d) 45

8.

15	x	35
30	40	5
30	10	35

(a) 45
(b) 35
(c) 25
(d) 15

9.

3	18	3
15	5	4
6	x	17

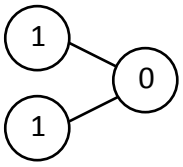
(a) 1
(b) 2
(c) 10
(d) 14

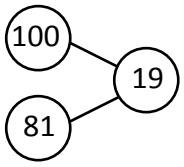
10.

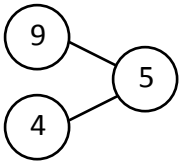
13	20	x
15	10	15
12	10	18

(a) 15
(b) 10
(c) 7
(d) 2

Sample 3:

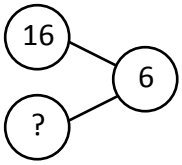






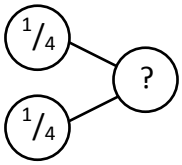
Hint: 9 – 4 = 5

11.



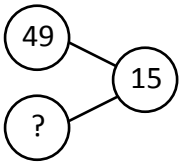
(a) 10
(b) 8
(c) 4
(d) 2

12.



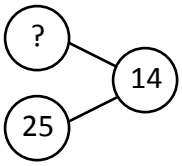
(a) 2
(b) $^1/_2$
(c) $^1/_3$
(d) 0

13.



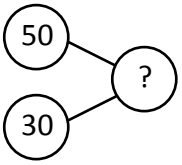
(a) 81
(b) 64
(c) 34
(d) 8

14.



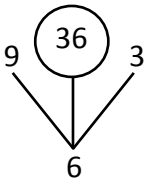
(a) 39
(b) 9
(c) 7
(d) 5

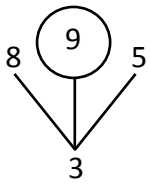
15.



(a) 80
(b) 60
(c) 40
(d) 20

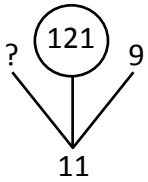
Sample 4:





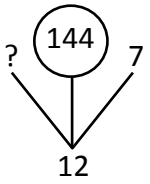
Hint: 9 – 3 = 6, $6^2 = 36$

16.



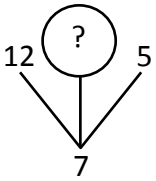
(a) 25
(b) 24
(c) 22
(d) 20

17.



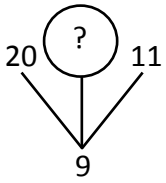
(a) 29
(b) 21
(c) 20
(d) 19

18.



(a) 84
(b) 60
(c) 54
(d) 49

19.



(a) 110
(b) 99
(c) 91
(d) 81

Sample 5: 2 ↑ 6 = 8 6 ↓ 4 = 2 2 ↑ 5 ↓ 3 = 4

Use the above sample to answer questions 20 – 23.

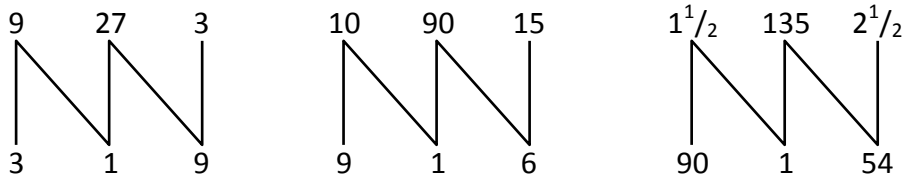
20. 17 ↑ ? = 28 (a) 11 (b) 13 (c) 15 (d) 19

21. (12 ↑ 7) ↓ $2^1/_2$ = ? (a) $17^1/_2$ (b) $16^1/_2$ (c) $7^1/_2$ (d) $5^1/_2$

22. 34 ↑ 43 ↓ 11 = ? (a) 98 (b) 88 (c) 58 (d) 54

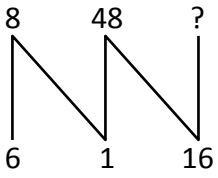
23. (56 ↓ ?) ↓ 14 = 12 (a) 82 (b) 58 (c) 30 (d) 26

Sample 6:



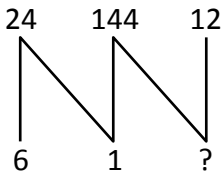
Use the samples above to answer questions 24 – 25. **Hint:** 10 x 9 = 90, 15 x 6 = 90

24.



(a) 6
(b) 5
(c) 4
(d) 3

25.



(a) 15
(b) 14
(c) 12
(d) 10

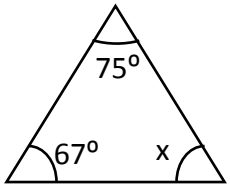
BASIC SCIENCE AND TECHNOLOGY

1. Which of these is a synthetic drug? (a) palm wine (b) paracetamol (c) kolanut (d) bitter leaf
2. The amount of water vapour in the air is called ___ (a) humidity (b) sunshine (c) temperature (d) cloud
3. Soil can be prepared for planting by making all these except ___ (a) heaps (b) drainages (c) beds (d) ridges
4. Solar system comprises the sun and_____ (a) cloud (b) planets (c) atmosphere (d) stars
5. One of these is not the advantages of recycling waste. (a) it provides employment (b) it keeps the environment clean (c) it serves as a means of generating revenue (d) it is a source of water supply
6. Day and night are caused by the ___ movement of the earth. (a) random (b) revolution (c) rotational (d) rectangular
7. The following are ways of controlling erosion except ___ (a) making garden beds (b) planting of cover crops (c) crop rotation (d) bush burning
8. When caustic soda is mixed with oil, ____ is produced. (a) soap (b) salt (c) sugar (d) rubber
9. The transfer of pollen grains from the anther to the stigma of a flower is ___ (a) pollination (b) fertilization (c) pollution (d) conduction

10. The skull protects the ___ (a) lungs (b) heart (c) brain (d) kidney
11. A muscular organ that pumps blood round the body is known as ___ (a) ventricle (b) cardiac (c) heart (d) venocava
12. Which of these is not a cereal? (a) yam (b) rice (c) maize (d) millet
13. Which of these protect the human heart and lungs? (a) skull (b) rib cage (c) vertebrae column (d) humerus
14. Which of these is not refined from crude oil? (a) petrol (b) iron ore (c) kerosene (d) candle wax
15. The Lagos State Government Agency in charge of waste collection and disposal is ___ (a) LASSRA (b) LASSA (c) LAWMA (d) LASIEC
16. During respiration, the exchange of gas takes place in the ___ (a) lung (b) liver (c) nose (d) mouth
17. One of these is NOT a water project. (a) dams (b) ports (c) river basics (d) rainfall
18. Muscles are attached to bones by means of ___ (a) tendon (b) cartilage (c) vessels (d) patella
19. These are the properties of air except ___ (a) air has weight (b) air occupies space (c) air supports weight (d) air reduces weight
20. Which of these is NOT a sexually transmitted disease? (a) gonorrhea (b) syphilis (c) herpes (d) malaria
21. The following are the reasons why we keep pets at home except ___ (a) for protection (b) for giving signals (c) to produce good sounds (d) to fight the owners
22. Unripe fruits usually appear in _____ colour. (a) blue (b) yellow (c) brown (d) green
23. Melting of ice-blocks and candle wax, evaporation of water are___ (a) temporary (b) permanent (c) pubertal (d) development
24. Good maintenance prevents metals from ____ (a) decaying (b) rusting (c) insulating (d) fermenting
25. Iron filling can be separated from sand through the use of ____ (a) magnet (b) funnel (c) filtration (d) evaporation

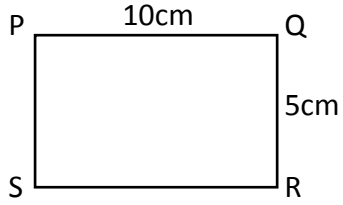
STATE COMMON ENTRANCE EXAMINATION (2016)

1. Write in figures: Ten thousand, one hundred and eight. (a) 10,108 (b) 1000,108 (c) 10800 (d) 11,008
2. Write in figures: Twenty thousand, eight hundred and seven. (a) 2087 (b) 208007 (c) 20087 (d) 20807
3. Find the value of $2^2 \times 3^2 \times 5^2$. (a) 489 (b) 3600 (c) 900 (d) 480
4. Express $\frac{10}{1000}$ as a decimal. (a) 0.001 (b) 0.01 (c) 0.1 (d) 0.0001
5. Add together: N112.45; N36.52; N44.20. (a) 193.17 (b) 190.99 (c) 495.09 (d) 195.09
6. Convert 25_{10} to base 2. (a) 10000_2 (b) 10100_2 (c) 10011_2 (d) 11001_2
7. Find 10% of N200.00 (a) N12.00 (b) N15.00 (c) N20.00 (d) N16.00
8. A radio is marked N2500.00 in a store. If a discount of 20% is given, how much did the buyer pay for the radio? (a) N4,000.00 (b) N1,500.00 (c) N2,000.00 (d) N3,000.00
9. Arrange the following in ascending order: 0.05; 1.50; 0.025; 2.05; 1.25 (a) 2.05; 0.25; 1.50; 0.05; 1.25 (b) 0.025; 0.05; 1.25; 1.50; 2.05 (c) 1.50; 0.05; 0.25; 2.05; 1.25 (d) 0.05; 1.50; 0.025; 1.25; 2.05
10. Find the LCM of 6, 12 and 24. (a) 30 (b) 24 (c) 36 (d) 48
11. What is the value of angle x? (a) 83° (b) 76° (c) 42° (d) 38°



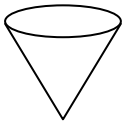
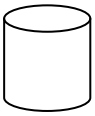
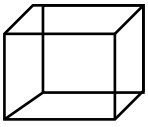
12. A bucket holds 9.450 litres of water. Find the capacity of 7 similar buckets. (a) 95.120 litres (b) 65.150 litres (c) 66.150 litres (d) 66.105 litres
13. Write 3924 in Roman numerals. (a) MMXMXMXXIV (b) MMMCMXXIV (c) MMMXXIVXM (d) MMXMXXIV
14. Which of the following is not a prime number? (a) 9 (b) 5 (c) 3 (d) 7
15. Arrange $^1/_2$; $^2/_5$; $^5/_8$ and $^7/_{10}$ in descending order. (a) ½; $^2/_5$; $^5/_8$; $^7/_{10}$ (b) $^2/_5$; $^5/_8$; ½; $^7/_{10}$ (c) $^7/_{10}$; $^5/_8$; ½; $^2/_5$ (d) $^5/_8$; $^2/_5$; $^7/_{10}$; ½
16. Approximate 726 to the nearest hundred. (a) 750 (b) 600 (c) 626 (d) 700

17. What is the place value of 8 in 581043? (a) Eighty thousand (b) Eight thousand (c) Eight hundred (d) Tenth hundred
18. How many minutes are there between 8.55a.m and 11.20a.m of the same day? (a) 165 minutes (b) 145 minutes (c) 135 minutes (d) 120 minutes
19. Increase N300 by 30% (a) N3000.00 (b) N390.00 (c) N330.00 (d) N303.00
20. Find the product of 6^2 and 5^2. (a) 1009 (b) 900 (c) 800 (d) 700
21. Find the value of 87297 + 51727. (a) 129023 (b) 131022 (c) 139023 (d) 1389021
22. Find the area of the rectangle PQRS below.



(a) 30cm² (b) 50cm² 5cm² (d) 2cm²

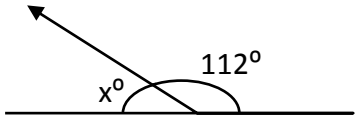
23. Which is the biggest: - $^1/_3$; $^4/_5$; $^1/_2$; or $^9/_{30}$? (a) $^1/_3$ (b) $^4/_5$ (c) $^9/_{30}$ (d) $^1/_2$
24. Correct 72738 to the nearest thousand. (a) 70,000 (b) 71,000 (c) 72,000 (d) 73,000
25. There are 560 pupils in a school. If 28 pupils were absent in a particular day; find the percentage of the pupils absent for that day. (a) 10% (b) 8% (c) 7% (d) 5%
26. Name these shapes in order of arrangement.

i.  ii.  iii.  iv. 

(a) Triangle, parallelogram, cylinder, cube (b) cone, rectangle, cycle, cuboid (c) cone, parallelogram, cylinder, cuboid (d) cone, cylinder, cuboid, parallelogram

27. Simplify $^1/_2$ x $^1/_8$ ÷ $^1/_{24}$. (a) $^1/_{16}$ (b) $^3/_2$ (c) $^2/_3$ (d) $^3/_4$
28. A factory worker who earns N18,000.00 per month is taxed 35 kobo on every naira. How much does he pay as tax per month? (a) N3,600.00 (b) N4,300.00 (c) N5,600.00 (d) N6,300.00
29. The longest side of a right-angled triangle is known as ___ (a) adjacent (b) hypotenuse (c) opposite (d) diameter

30. Find the cost of 168 school bags at the rate of N280 each. (a) N40,740 (b) N47,040 (c) N42,470 (d) N48,074
31. Find the value of x; $^{4}/_{5} = {}^{x}/_{30}$. (a) 24 (b) 28 (c) 32 (d) 36
32. Express 48 as a product of its prime factors. (a) 2 x 2 x 2 x 2 x 3 x 3 (b) 2 x 2 x 2 x 2 x 2 (c) 4 x 12 (d) 2 x 2 x 2 x 2 x 3
33. Write CMLXXIX in Arabic numerals. (a) 1179 (b) 1079 (c) 979 (d) 879
34. Which of these is not a perfect square? (a) 8 (b) 27 (c) 36 (d) 64
35. Evaluate 3c + 6 = 18. (a) 16 (b) 14 (c) 6 (d) 4
36. A man travelled 180km in 6 hours. How far would he travel in 8 hours at the same speed? (a) 218km (b) 245km (c) 240km (d) 135km
37. Find the missing number in the box: 69 + □ = 137. (a) 80 (b) 78 (c) 69 (d) 68
38. There are 120 oranges in a basket, if 20% of the oranges are bad, how many oranges are good? (a) 690 (b) 96 (c) 169 (d) 60
39. Evaluate 26.3 x 9.4 (a) 247.22 (b) 267.21 (c) 236.29 (d) 274.22
40. How much less that 1 is the sum of $^{1}/_{2}$ and $^{1}/_{3}$? (a) $^{1}/_{6}$ (b) $^{1}/_{7}$ (c) $^{1}/_{8}$ (d) $^{1}/_{4}$
41. Add the digits in 8271 together. (a) 50 (b) 18 (c) 19 (d) 28
42. Mr. & Mrs. Banjo bought some shares for their son, Jude, John and Joshua in the ratio 7 : 5 : 3. If the total shares bought was N90,000. How much shares will John receive? (a) N18,000.00 (b) N42,000.00 (c) N52,000.00 (d) N30,000.00
43. Which of these formulae can be used to calculate the area of a trapezium? (a) ½(a + b) x h (b) 2(1 + b) (c) $\pi r^2 h$ (d) ½ x base x height
44. Calculate the angle marked x^o (a) 78 (b) 70 (c) 68 (d) 64



45. How many days are there in 17 weeks? (a) 149 days (b) 119 days (c) 129 days (d) 102 days
46. The area of a rectangle is 189cm², if its breadth is 9cm, find its length. (a) 9cm (b) 198cm (c) 21cm (d) 1701cm
47. Add together 3.845; 1.3; 0.92; 6.42 and 28. (a) 60.187 (b) 56.485 (d) 40.485 (d) 48.448

48. Express 196 as product of its prime factors. (a) $2^2 \times 3 \times 7$ (b) $2 \times 3^2 \times 7$ (c) $2^2 \times 7^2$ (d) $2 \times 3 \times 7^2$

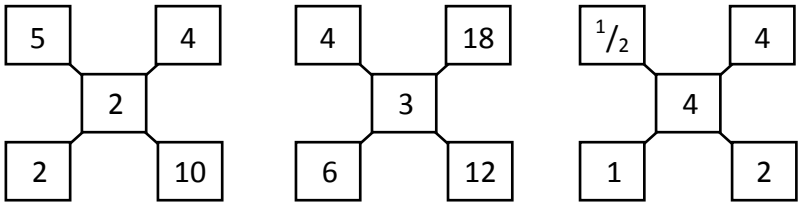
49. Evaluate 10 x (8 – 3) x 2. (a) 60 (b) 100 (c) 800 (d) 110

50. If the sum of two angles equaled to 90, they are called ____ angles. (a) supplementary (b) complimentary (c) alternate (d) corresponding

QUANTITATIVE APTITUDE

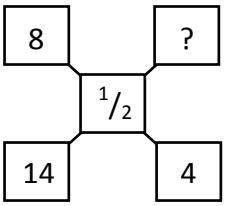
Use the samples to answer questions 1 – 4.

Sample:



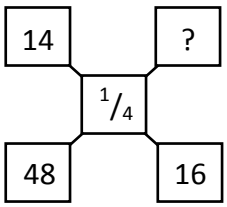
Hint: $\frac{10}{5} = 2$, $\frac{4}{2} = 2$

1.



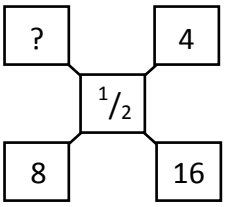
(a) 10
(b) 9
(c) 7
(d) 6

2.



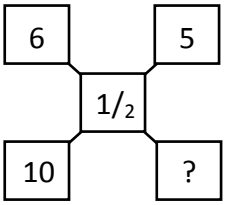
(a) 6
(b) 10
(c) 12
(d) 4

3.



(a) 30
(b) 32
(c) 36
(d) 38

4.



(a) 2
(b) 3
(c) 4
(d) 5

Use the information below to answer questions 5 – 8.

x = 1, y = 3 and z = 5.

5. $\frac{5(x+y)}{2z}$ = (a) 1 (b) 2 (c) $2^1/_2$ (c) 12

6. 3x + 2y = (a) 18 (b) 15 (c) 12 (d) 9

7. 5x + 2z + 3y = (a) 16 (b) 20 (c) 24 (d) 25

8. 5z – 2(y – x) (a) 21 (b) 29 (c) 31 (d) 49

Use the information below to answer questions 9 – 13.

The word EXAMINATION is represented by 12345637586.

9. 487586 will represent (a) MOTION (b) EMOTION (c) NATION (d) EXAM

10. EMOTION will be represent by (a) 1 2 3 4 5 6 7 (b) 1 3 8 7 5 8 6 (c) 1 4 8 7 5 8 6 (d) 1 5 4 7 5 8 6

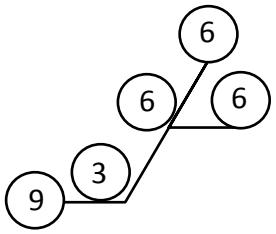
11. Which of the following words does 4332543 represent? (a) MAXIMAN (b) AXIMAN (c) MEXIMA (d) MAXIMA

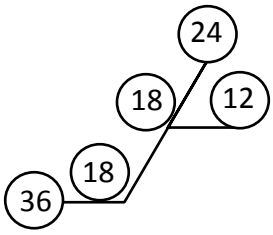
12. TAXATION is represented by (a) 3 7 3 2 7 5 8 6 (b) 7 2 2 3 7 5 8 6 (c) 7 3 2 3 7 5 8 6 (d) 7 4 8 6 7 3 2 3

13. NOTATION is represented by (a) 1 2 8 3 7 5 8 6 (b) 6 8 7 3 7 5 8 6 (c) 6 8 7 3 7 8 5 6 (d) 6 8 3 7 8 7 5 6

Use the samples below to answer questions 14 – 18.

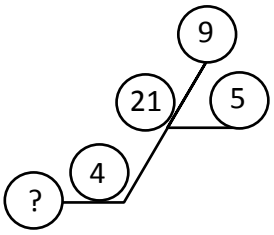
Samples:





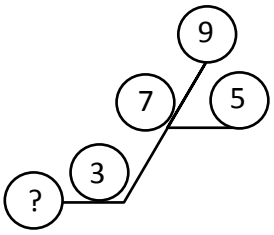
Hint: (36 – 18) + 18 = 24 + 12

14.



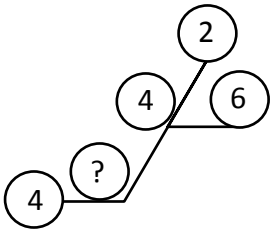
(a) 25
(b) 20
(c) 30
(d) 26

15.



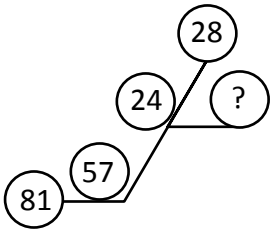
(a) 2
(b) 19
(c) 3
(d) 10

16.



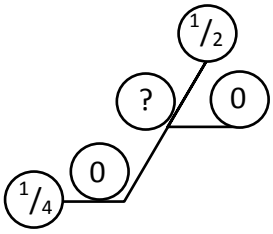
(a) 1
(b) 2
(c) 3
(d) 0

17.



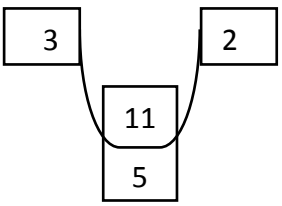
(a) 6
(b) 18
(c) 20
(d) 48

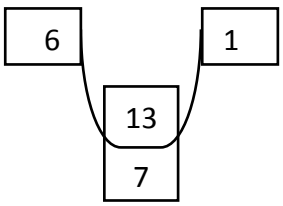
18.



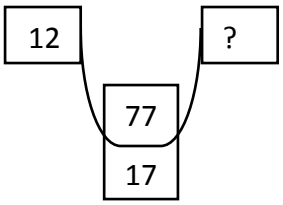
(a) $\frac{1}{2}$
(b) $1\frac{1}{4}$
(c) $2\frac{1}{4}$
(d) $\frac{1}{4}$

Sample:

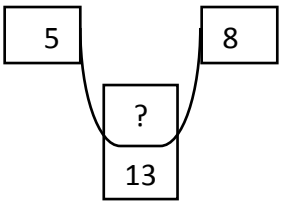




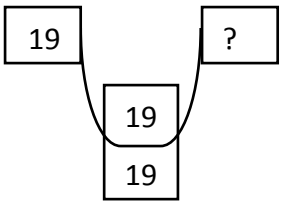
Hint: 3 x 2 + 5 = 11

19. 

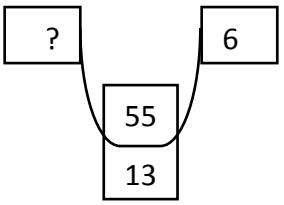
(a) 5
(b) 10
(c) 15
(d) 20

20. 

(a) 13
(b) 23
(c) 53
(d) 36

21. 

(a) 19
(b) 38
(c) 0
(d) 40

22. 

(a) 0
(b) 13
(c) 55
(d) 7

Use the sample to answer questions 23 – 25. **Hint:** (4 + 2) x 2 = 12

4 P 2 = 12 3 P 6 = 18 20 P 10 = 60

23. $^{1}/_{2}$ P $^{1}/_{4}$ = ? (a) $1^{1}/_{4}$ (b) $1^{1}/_{2}$ (c) $1^{3}/_{4}$ (d) $^{3}/_{4}$

24. 6 P ? = 24 (a) 0 (b) 3 (c) 6 (d) 9

25. 8 P 2 = ? (a) 100 (b) 28 (c) 20 (d) 18

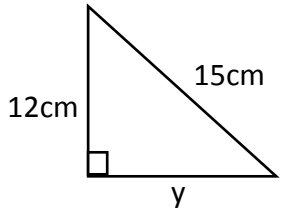
BASIC SCIENCE

1. The blood vessels that carries blood from the heart to the lung is called (a) Aorta (b) Capillaries (c) Pulmonary arteries (d) Pulmonary veins
2. One of these is NOT a social networking tool. (a) facebook (b) coreldraw (c) twitter (d) instagram
3. Chemical substance in human body responsible for changes in boys and girls at puberty are called ___ (a) sexual hormones (b) sexual drug (c) sexual booster (d) sexual agent
4. Fruits and vegetables are sources of ___ (a) fats and oil (b) protein (c) vitamins (d) carbohydrates
5. The first set of teeth of a baby is called ___ (a) permanent (b) canine (c) sweet (d) milk
6. Environment is the totality of (a) everything around us (b) things on our bed (c) things on our homes (d) things in our kitchen
7. One of these is NOT a male reproductive. (a) scrotum (b) ovary (c) testis (d) spermduct
8. The primary source of heat energy is the (a) moon (b) sun (c) solar (d) star
9. Which part of the body is used for breathing and smelling? (a) ear (b) eye (c) mouth (d) nose

10. Gully erosion is a type of erosion caused by (a) flood (b) wind (c) water (d) environment
11. The force in the centre of the earth that attracts things to the earth is called force of ___ (a) thunder (b) sun (c) gravity (d) planets
12. Example of cover crops that can prevent erosion is ___ (a) maize (b) melon (c) pepper (d) yam
13. Which of these is a cure for fatigue? (a) rest (b) walk (c) work (d) restlessness
14. Which part of the human skeleton protects the heart and lungs? (a) skull (b) joint (c) vertebra column (d) ribcage
15. Excessive noise can prevent people from ___ (a) eating (b) dancing (c) good sleep (d) laughing
16. Part of the skeleton where the eyes is fixed is called ___ (a) eye socket (b) eye sacray (c) eye axis (d) eye lashes
17. Animals that lives on both land and water are called ___ (a) reptiles (b) vertebrates (c) mammals (d) amphibians
18. Which of these is not one of the uses of water? (a) bathing (b) industrial uses (c) transportation (d) sleeping
19. Soil contains water which reduces excess ___ in the soil. (a) heat (b) water (c) rainfall (d) wind
20. The ___ supports food in the mouth and stop it from pouring out of the mouth. (a) teeth (b) tongue (c) lips (d) nose
21. The process by which green plants manufacture their food with the aid of sunlight is called (a) photosynthesis (b) stomata (c) reproduction (d) photochemical
22. Cattle provides us with meat and (a) bone (b) water (c) blood (d) milk
23. The earth rotates on its (a) heat (b) tail (c) orbit (d) axis
24. ____ contains all classes of food in the appropriate proportion. (a) balanced diet (b) protein (c) vitamin (d) yams and beans
25. Taking drug without doctor's prescription is known as ___ (a) drug abuse (b) hard drug (c) drug orderliness (d) drug taken

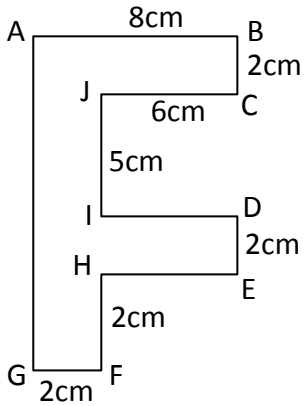
STATE COMMON ENTRANCE EXAMINATION (2017)

1. Choose the correct option that express: Three million, five hundred thousand and nine-six. (a) 350096 (b) 350096 (c) 3050096 (d) 30500096
2. Simplify: $(8^2 \div 8^2) \times \sqrt{36}$. (a) 18 (b) 24 (c) 36 (d) 32
3. The average of four numbers is 10. Three of the numbers are 17, 13 and 6. What is the fourth number? (a) 10 (b) 30 (c) 4 (d) 8
4. Express $^5/_8$ as a decimal. (a) 0.620 (b) 0.580 (c) 0.630 (d) 0.625
5. Evaluate $\sqrt{\frac{36}{100} \div \frac{9}{81}}$ (a) $^6/_{10}$ (b) $^4/_{15}$ (c) $1^4/_5$ (d) $1^1/_6$
6. What is the cost of $10^3/_4$ metres of cloth at 800 Naira per metre? (a) N86.00 (b) N6,800.00 (c) N8,600.00 (d) N860.00
7. Find the node of: 30, 11, 5, 17, 11, 15, 26, 11. (a) 10 (b) 11 (c) 17 (d) 5
8. If $x^2 - y^2 = (x + y)(x - y)$, find $3^2 - 3^2$ (a) 9 (b) 8 (c) 4 (d) 5
9. Evaluate: 120^2 (a) 24000 (b) 14400 (c) 14200 (d) 24400
10. Find the value of y in the figure below. (a) 9cm (b) 8cm (c) 10cm (d) 6cm



11. Add: $1^1/_4 + 2^2/_3$. (a) $3^3/_{12}$ (b) $3^4/_{12}$ (c) $3^3/_7$ (d) $3^{11}/_{12}$
12. Express 36 as a product of its prime factors. (a) 2 x 2 x 9 (b) 2 x 2 x 3 x 3 (c) 2 x 3 x 6 (d) 3 x 3 x 4
13. Find the circumference of a circle whose radius is 1.4cm. (Take $\pi = {}^{22}/_7$). (a) 8.7cm (b) 8.8cm (c) 6.8cm (d) 8.5cm
14. Change $^{234}/_{1000}$ to decimal. (a) 23.4 (b) 2.34 (c) 0.234 (d) 0.0234
15. If Joel buys 7 tins of milk for 147k, how much will she pay for 3 tins of the kind? (a) 150k (b) 63k (c) 75k (d) 147k
16. If $^2/_3$ of 48 eggs are shared, how many eggs are left? (a) 16 (b) 14 (c) 12 (d) 13
17. Add: 1101 + 1211 in base three. (a) 10011_3 (b) 10012_3 (c) 12012_3 (d) 11001_3
18. Express: 12 as a ratio of 27. (a) 9:4 (b) 3:4 (c) 3:7 (d) 4:9
19. Simplify: 25 + ½ of 10 – 7. (a) 24 (b) 25 (c) 20 (d) 23

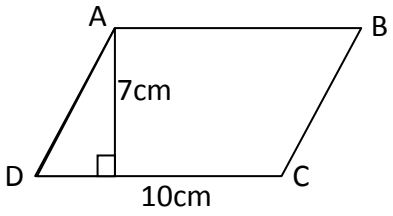
20. Simplify: $1^1/_2 + 1^2/_3 \div 1^1/_9 \times {}^3/_9$. (a) $2^3/_{10}$ (b) $3^4/_9$ (c) $1^1/_2$ (d) 2
21. Find the value of x in the ratio 2:8 = 16:x. (a) 28 (b) 64 (c) 82 (d) 14
22. Change to hours: 5 days 3 hrs. (a) 213 hrs (b) 123 hrs (c) 132 hrs (d) 103 hrs
23. What is the median of: 60, 65, 71, 75, 84? (a) 71 (b) 60 (c) 65 (d) 75
24. Find the volume of a cylinder whose base radius is $10^1/_2$cm and height is 10cm. (a) 3564cm³ (b) 3456cm³ (c) 3546cm^4 (d) 3456cm³
25. The product of two numbers is 24. If one of the number is – 3, find the other number. (a) 8 (b) 6 (c) -6 (c) -8
26. Add: 87 + 5899 + 8 + 594. (a) 6858 (b) 6885 (c) 6588 (d) 6865
27. Find the HCF of 18 and 45. (a) 6 (b) 63 (c) 3 (d) 9
28. If 7 is added to four times a number, the result is 55. Find the number. (a) 6 (b) 9 (c) 12 (d) 10
29. The length of a rectangle is 35cm while the breadth is 12cm. Find the area of the shape. (a) 47cm² (b) 420cm² (c) 23cm² (d) 410cm²
30. Express ${}^{837}/_{1000}$ as a decimal number. (a) 837.0 (b) 0.0837 (c) 83.70 (d) 0.837
31. An athlete ran a 2100 metres crescent and a road that is 900 metres to and fro. What distance did he cover in kilometers? (a) 3km (b) 10km (c) 6km (d) 1km
32. What is the place value of 3 in 423686? (a) 3 units (b) 3 hundred (c) 3 thousand (d) 3 tens
33. Find the total perimeter of the shape below.



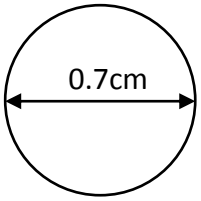
(a) 45cm (b) 49cm (c) 50cm (d) 48cm

34. A triangle is which the three sides are not equal is a/an ____ triangle. (a) scalene (b) equilateral (c) isosceles (d) right angled
35. The value of ${}^3/_7$ of N3.78 + ${}^5/_9$ of N7.47 is ___ (a) N5.77 (b) N6.42 (c) N4.32 (d) N8.22
36. Find the following ratio in the simplest form: 75k : N1.25k. (a) 3 : 5 (b) 25 : 15 (c) 5: 3 (d) 15 : 25

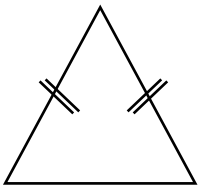
37. Multiply: 423 by 234. (a) 98298 (b) 92898 (c) 98928 (d) 98982
38. After 10% is deducted from an amount of money N81.00 is left. What was the original amount? (a) N95 (b) N85 (c) N90 (d) N80
39. Calculate the area of the figure below. (a) 50cm² (b) 60cm² (c) 80cm² (d) 70cm²



40. Evaluate: 132 – m = 47. (a) 70 (b) 85 (c) 80 (d) 81
41. Calculate the area of the circle below. ($\pi = {}^{22}/_{7}$). (a) 1.54cm² (b) 77.0cm² (c) 22.0cm² (d) 0.385cm²



42. A square has ____ lines of symmetry. (a) 4 (b) 8 (c) 2 (d) 6
43. A number that has only two factors is a/an ____ number. (a) even (b) prime (c) binary (d) odd
44. Find the radius of a circular pillar. If its circumference measures 179cm. (Take $\pi = {}^{22}/_{7}$). (a) 28cm (b) 22cm (c) 44cm (d) 176cm
45. Multiply 618 by 143. (a) 88374 (b) 83047 (c) 8374 (d) 88074
46. The figure below is a/an ___ triangle. (a) equilateral (b) right-angled (c) isosceles (d) scalene



47. Find the area of a semi-circle of diameter 14cm ($\pi = 3{}^{1}/_{7}$). (a) 76cm² (b) 77cm² (c) 74cm² (d) 75cm²
48. Add: 32.3L, 7.66L, 3.917L and 22L. (a) 64.877L (b) 65.787L (c) 63.877L (d) 65.877L
49. Arrange in ascending order: ${}^{1}/_{3}$, ½, ${}^{2}/_{5}$, ¼. (a) ${}^{2}/_{3}$ (b) ¼, ${}^{1}/_{3}$, ½ (b) ${}^{1}/_{3}$, ½, ${}^{2}/_{5}$, ¼ (c) ¼, ${}^{1}/_{3}$, ${}^{2}/_{5}$, ½ (d) ${}^{1}/_{3}$, ½, ${}^{2}/_{5}$, ¼

50. Think of a number, triple it and add 6, and the answer is 45. What is the number? (a) 15 (b) 14 (c) 13 (d) 12

QUANTITATIVE REASONING

Use the two samples shown in the ILLUSTRATION A to answer the following questions.

Illustration A:

Hint: 2 x 3 = 6

1. 

(a) 6 (b) 24 (c) 8 (d) 2

2. 

(a) 3 (b) 2 (c) 5 (d) 4

3. 

(a) 5 (b) 15 (c) 3 (d) 8

4. 

(a) 2 (b) 6 (c) 8 (d) 4

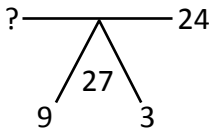
5. 

(a) 12 (b) 39 (c) 17 (d) 17

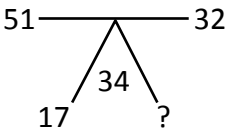
Use the two samples shown in the ILLUSTRATION B to answer the following questions.

ILLUSTRATION B

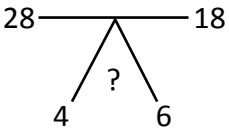
Hint: 30 – 2 = 28
14 + 14 = 28

6. 

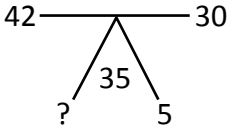
(a) 36
(b) 32
(c) 30
(d) 35

7. 

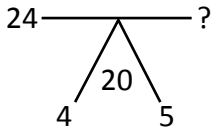
(a) 41
(b) 51
(c) 36
(d) 2

8. 

(a) 32
(b) 10
(c) 34
(d) 24

9. 

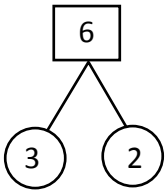
(a) 7
(b) 3
(c) 6
(d) 5

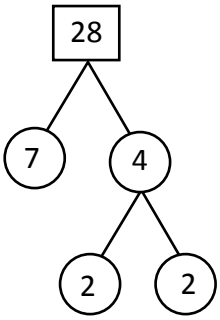
10. 

(a) 15
(b) 29
(c) 9
(d) 18

Using the samples shown in Illustration C, answer the following questions.

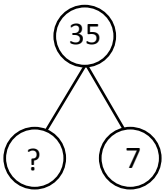
ILLUSTRATION C:





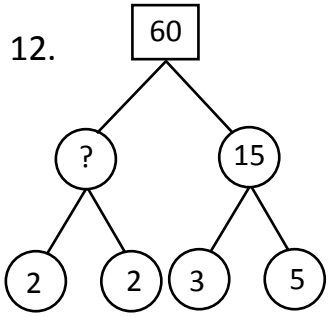
Hint: 3 x 2 = 6

11.



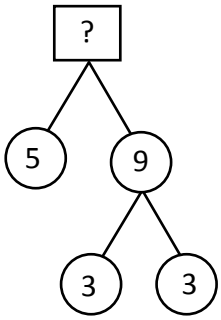
(a) 2
(b) 5
(c) 12
(d) 42

12.



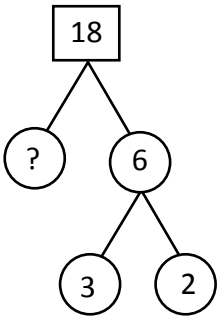
(a) 6
(b) 12
(c) 4
(d) 3

13.



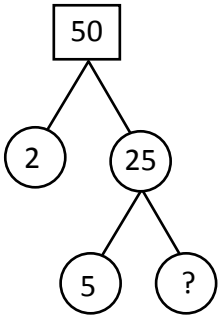
(a) 45
(b) 9
(c) 25
(d) 14

14.



(a) 6
(b) 3
(c) 9
(d) 4

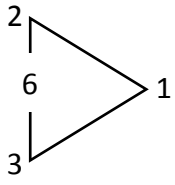
15.

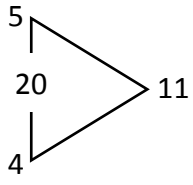


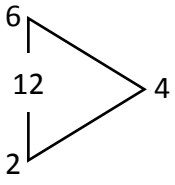
(a) 6
(b) 5
(c) 20
(d) 125

Use the three examples shown in ILLUSTRATION D to answer the following questions.

ILLUSTRATION D:



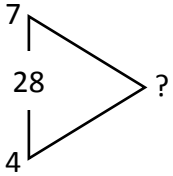




Hint: 3 x 2 = 6

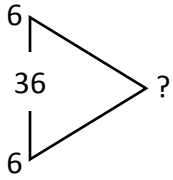
6 – (3 + 2) = 1

16.



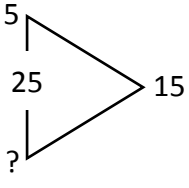
(a) 17
(b) 11
(c) 16
(d) 15

17.

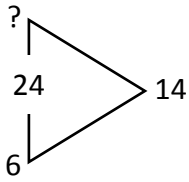


(a) 20
(b) 32
(c) 12
(d) 24

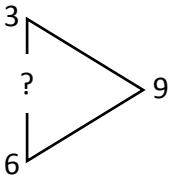
18.



(a) 25
(b) 20
(c) 5
(d) 15

19. 

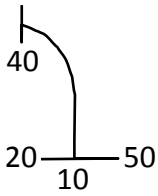
(a) 4
(b) 8
(c) 6
(d) 2

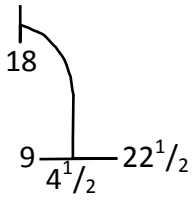
20. 

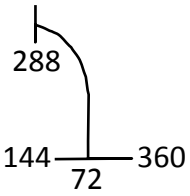
(a) 9
(b) 15
(c) 12
(d) 18

Use the three samples shown in ILLUSTRATION E to answer the following questions.

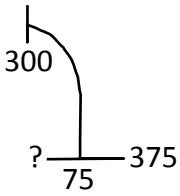
ILLUSTRATION E:



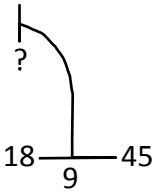




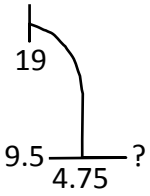
Hint: 50 – 20 + 10 = 40

21. 

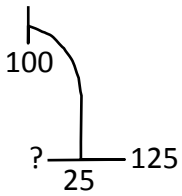
(a) 150
(b) 145
(c) 130
(d) 120

22. 

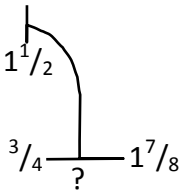
(a) 48
(b) 49
(c) 30
(d) 36

23. 

(a) 29.40
(b) 26.65
(c) 23.75
(d) 14.25

24. 

(a) 54
(b) 150
(c) 20
(d) 50

25. 

(a) $^1/_8$
(b) $^3/_8$
(c) $1^1/_4$
(d) $2^3/_4$

BASIC SCIENCE AND TECHNOLOGY

1. Electricity makes life ___ (a) boring (b) comfortable (c) unpleasant (d) static
2. Which of the following is NOT true of air? It ___ (a) has weight (b) is a mixture (c) is a compound (d) can be compressed
3. The following are sources of energy EXCEPT ___ (a) heat (b) coal (c) wood (d) food
4. Which of the following food items is a source of vitamin? (a) yam (b) cassava (c) oil (d) orange
5. When two flat objects are joined together, it is called ___ (a) screw (b) lever (c) wedge (d) pulley
6. A thermometer is an instrument used in measuring ___ (a) pressure (b) temperature (c) rainfall (d) humidity
7. The force that opposes motion is called ___ (a) magnetic (b) gravitational (c) friction (d) tension

8. Which of these CANNOT conduct electricity? (a) coins (b) carbon rods (c) plastics (d) water
9. When rays of light from the sun is reflected on entering rain droplets, it causes ___ (a) vision (b) rainbow (c) mirage (d) apparent depth
10. Which of the following is an example of solid state of matter? (a) steam (b) oxygen (c) kerosene (d) stone
11. Which of these gases can be used in filling a balloon? (a) ozone (b) hydrogen (c) nitrogen (d) oxygen
12. The earth completes its revolution in ____ days. (a) 365 (b) 100 (c) 60 (d) 24
13. How many colours make up white light? (a) 7 (b) 4 (c) 5 (d) 8
14. Which of these is NOT refined from crude oil? (a) nylon (b) bitumen (c) petrol (d) kerosene
15. A good source of vitamin C is ___ (a) meats (b) egg (c) beans (d) lemon
16. Which of the following is a non-metal? (a) plastic (b) zinc (c) gold (d) iron
17. Which of the following gases is given off during respiration? (a) oxygen (b) nitrogen (c) carbon(iv)oxide (d) carbon monoxide
18. Which of the following is a carbohydrate? (a) meat (b) melon (c) maize (d) mango
19. The most important materials for making cement is ___ (a) limestone (b) clay (c) atum (d) quicklime
20. The joint found at the elbow is called ___ joint. (a) pivot (b) ball and socket (c) hinge (d) gliding
21. What is the standard unit of measuring area? (a) m^3 (b) m (c) km (d) m^2
22. Objects that allow electricity to pass through them are called ___ (a) insulators (b) transformers (c) conductors (d) metals
23. The union of an ovum and a sperm is ___ (a) fertilization (b) gonads (c) gamete (d) ovulation
24. Screw jack is used for ___ (a) drawing water (b) connecting metals (c) creating holes (d) lifting a car
25. The process by which plants manufacture their food is ___ (a) osmosis (b) photosynthesis (c) diffusion (d) phototropism

NATIONAL COMMON ENTRANCE EXAMINATION ANSWERS 2000 - 2017

MATHEMATICS ANSWERS (2000)

1. Diameter

2. four thousand = 4000
   Seven hundred = 700
   Five = 5
   4,705 [D]

3. 50 – 60 = 53, 59

4. 75% = $\frac{75}{100}$
   = 0.75 [C]

5. 4 in 1476.25 is 4 hundreds [D]

6.

2	18	27	36
2	9	27	18
3	9	27	9
3	3	9	3
3	1	3	1
	1	1	1

∴ L.C.M = 2 x 2 x 3 x 3 x 3
= 108, [E]

7. 5.2 x 1.3

```
  5 . 2
  1 . 3
-------
1 5 . 6
+ 5 2
-------
6 . 7 6
-------
```

∴ 5.2 x 1.3 = 6.76 [A]

8. 90^{o}

9. 615
   600 = DC
   10 = X
   5 = V
   ∴ 615 = DCXV [D]

10. 50,769 = 50,800 to the nearest hundred [E]

11. Average = $\frac{\text{Sum of numbers}}{\text{Total numbers}}$

$= \frac{16 + 50 + 14 + 20 + 40}{5}$

$= \frac{140}{5}$

= 28 [A]

12. $x^2 = 169$

$x = \sqrt{169}$

x = 13

x – 5

13 – 5 = 8 [A]

13. 20% of 2000

$\frac{20}{100} \times 2000$

= 20 x 20

= 400

∴ Decrease = 2000 – 400
= 1600 [D]

14. $6^2 - 5^2 + 5$

36 – 25 + 5

= 16 [D]

15. Rate = $\frac{100 \times S.I}{P \times T}$

$= \frac{100 \times 25}{200 \times 2^1/_2}$

$= \frac{\cancel{100} \times 25}{\cancel{200} \times {}^5/_2}$

$= \frac{25}{5}$

=5% [B]

16. $3\frac{2}{5} - 2\frac{1}{3}$

$\frac{67}{5} - \frac{7}{3}$

$\frac{201-35}{15}$

$\frac{166}{15}$

$11\frac{1}{15}$ [D]

17. Perimeter = 2(L + B)

24 = 2(8 + B)

24 = 16 + 2B

2B = 24 – 16

$\frac{\cancel{2}B}{\cancel{2}} = \frac{8}{2}$

B = 4

Area = L x B

= 8 x 4

= 32cm² [C]

18. Ayo's share = $\frac{r}{t.r}$ x sum

= $^1/_6$ x 2004

= $\frac{2004}{6}$

= 334 [E]

19.

2	6	8	12
2	3	4	6
2	3	2	3
3	3	1	3
	1	1	1

∴ L.C.M = 2 x 2 x 2 x 3

= 24 [A]

20. 1000cm = 1m

3105cm = $\frac{3105}{1000}$

= 3.105m [B]

21. 2t – 36 = 103

2t = 103 + 36

$\frac{2t}{2} = \frac{140}{2}$

t = 70 [B]

22. C.P = 320

S.P = 400

Gain = S.P – C.P

= 400 – 320

= 80

∴ Gain% = $\frac{G}{C.P} \times \frac{100}{1}$

= $\frac{\cancel{80}^{40}}{\cancel{320}_{16}} \times \frac{\cancel{100}^{5}}{1}$

= 5 x 5

= 25% [B]

23. Area = πr^2

154 = $^{22}/_7$ x r^2

$\frac{154}{7} = \frac{22}{2}r^2$

$22r^2 = 7 \times 154$

$\frac{\cancel{22}r^2}{\cancel{22}} = \frac{7 \times \cancel{154}^{7}}{\cancel{22}_{1}}$

$r^2 = 7 \times 7$

$r^2 = 49$

$r = \sqrt{49}$

r = 7cm [D]

24. x^o is an acute angle [A]

25. $56 + 90 + b^o = 180$

$146 + b^o = 180$

$b = 180 - 146$

$b = 34^o$ [E]

26. hyp $= \sqrt{(opp)^2 + (adj)^2}$

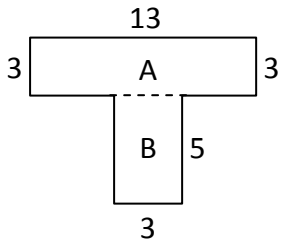
$= \sqrt{(6)^2 + (8)^2}$

$= \sqrt{36 + 64}$

$= \sqrt{100}$

= 10cm [A]

27.



Area of A = L X B

= 13 x 3

= 39

Area of B = L x B

= 9 x 3

= 27

$\therefore$ Total = 39 + 27

= 66cm² [C]

28. $\frac{315}{420} \times 100$

= 15 x 5

= 75%

29. Circumference = $2\pi r$

$= 2 \times {}^{22}/_{7} \times 7$

= 2 x 22

= 44cm [C]

30. Smallest angle = $\frac{r}{t.r}$ x sum

$= {}^{1}/_{6} \times 180$

= 1 x 30

$= 30^o$ [E]

31. $\frac{42}{t} = \frac{21}{2}$

t x 21 = 2 x 42

$\frac{t \times 21}{21} = \frac{84}{21}$

t = 4 [E]

32. Circumference = πd

$77 = {}^{22}/_{7} \times d$

$77 = {}^{22}/_{7}d$

$\frac{22}{22}d = \frac{7 \times \cancel{77}^{7}}{\cancel{22}_{2}}$

$d = {}^{49}/_{2}$

d = 24.5cm² [B]

33. Speed = $\frac{\text{Distance}}{\text{Time}}$

$= 84 \div {}^{4}/_{3}$

$= {}^{84}/_{1} \times ¾$

$= 21 \times 3$

$= 63$ [D]

34. 26 hrs 55mins

35. 0.0803×1000

$= 80.3$ [D]

36. $y^o + 89^o + 91^o + 85^o = 360$

$y^o + 265 = 360$

$y^o = 360 - 265$

$y^o = 95$ [D]

37. let the number be x

$\frac{2}{5} \times x = 23.2$

$\frac{2x}{5} = 23.2$

$2x = 5 \times 23.2$

$\frac{2x}{2} = \frac{116}{2}$

$x = 58$ [B]

38. ½ x ${}^{1}/_{8} \div {}^{1}/_{24}$

$\frac{1}{2} \times \frac{1}{\cancel{8}_{1}} \times \frac{\overset{3}{\cancel{24}}}{1}$

$= {}^{3}/_{2}$

39. 1 6 . 4 2 3

8 . 7 0 0

5 . 0 3 0

3 0 . 1 5 3 [A]

40. $\frac{6.125}{5} = 1.225$

= 1.23 to 2 d.p [B]

41. C

42. D

43. B

44. C

45. D

46. B

47. D

48. D

49. A

50. B

MATHEMATICS ANSWERS (2001)

1. 1½ of ¼ + 5½ ÷ ¾

$\frac{3}{2} \times \frac{1}{4} + \frac{11}{2} \times \frac{4}{3}$

$\frac{3}{8} + \frac{22}{3}$

L.C.M = 24

$= \frac{9 + 176}{24}$

$= \frac{185}{24}$

$= 7\frac{12}{24}$ [C]

2. $2x - 7 = 21$

$2x = 21 + 7$

$\frac{2}{2}x = \frac{28}{2}$

$x = 14$ [D]

3. Diagonal line [B]

4.

2	12	9	15
2	6	9	15
3	3	9	15
3	1	3	5
5	1	1	5
	1	1	1

3	12	9	15
	4	3	5

$\therefore$ L.C.M = 2 x 2 x 3 x 3 x 5

= 180

$\therefore$ Product = 180 x 3

= 540 [E]

5. adj $= \sqrt{(hyp)^2 - (opp)^2}$

$= \sqrt{(10)^2 - (8)^2}$

$= \sqrt{100 - 64}$

$= \sqrt{36}$

$= 6$ [E]

6. r = 4, s = 3, t = 2

$\frac{3r + s - t}{2}$

$= \frac{3(4) + 3 - 2}{2}$

$= \frac{12 + 3 - 2}{2}$

$= \frac{15 - 2}{2}$

$= {}^{13}/_{2}$

$= 6^{1}/_{2}$ [C]

7. MCDIX

M = 1000

CD = 400

IX = 9

1409

MCDIX = 1,409 [C]

8. $45^o + 65^o + y = 180$

$110^o + y = 180$

$y = 180 - 110$

$y = 70^o$ [D]

9. 100cm = 1m

6m = 600cm

$\therefore \frac{600}{25}$

= 24cm [D]

10. $\frac{A}{5} = \frac{60}{4}$

A x 4 = 5 x 60

$\frac{4}{4}A = \frac{300}{4}$

A = 75 [D]

11. One line of symmetry [B]

12. 2 is 200

1 is $\frac{10}{210}$ [C]

13. Volume [E]

14. Equal part = 2 + 3

= 5 [B]

15. Total bottles= 30 x 5

= 150

Bottles left = 150 – (25 + 5)

= 150 – 30

= 120

Percentage left = $\frac{\text{left}}{\text{T.B}} \times \frac{100}{1}$

$= \frac{\cancel{120}^{4}}{\cancel{150}_{5}} \times \frac{\cancel{100}^{20}}{1}$

= 4 x 20

= 80% [E]

16. Percentage left = 100% - 40%

= 60%

Oranges left = 60% of 200

$= \frac{60}{\cancel{100}} \times \cancel{200}$

= 60 x 2

= 120 oranges [C]

17. 60 sec = 1m

1 sec = $\frac{45}{60}$

$= \frac{3}{4} \times \frac{25}{25}$

$= \frac{75}{100}$

= 0.75cm/s [E]

18. let the number be x

x + 259 = 978

x = 978 – 259

x = 719 [E]

19. 600 – 120 = $\frac{480}{2}$

= 240

∴ Ade's share = N240

Afeez's share = 240 + 120

= N360 [C]

20. Area = $\frac{(a + b)h}{2}$

$= \frac{(10 + 15)6}{2}$

$= \frac{25 \times 6}{2}$

= 25 x 5

= 75cm² [B]

21. 7 in 345.79 is 7 tenths [D]

22. Area = L x B

= 10 x 5

= 50cm² [B]

23. 8:10pm [C]

24. Cone is V [A]

25. A right angle [D]

26. Factors of 6 are; 1, 2, 3, 6 [B]

27. S.P = 3 x 12

= N36

C.P = N30

Gain = S.P – C.P

= 36 – 30

= N6

Gain% = $\frac{\text{Gain}}{\text{C.P}} \times \frac{100}{1}$

= $\frac{\cancel{6}}{\cancel{30}_{5}} \times \frac{\cancel{100}^{20}}{1}$

= 20% [B]

28. (632 + 1803) x 0

= 0

29. 1 day = 47 litres

1 week = 47 x 7

= 329 litres [D]

30. quadrilateral [E]

31. $x^2 + 9 = 25$

$x^2 = 25 - 9$

$x^2 = 16$

$x = \sqrt{16}$

x = 4cm [B]

32. $^1/_{10}$, $^2/_5$, $^3/_8$, ¾, $^3/_{20}$

L.C.M = 40

$\frac{4, 16, 15, 30, 6}{40}$

∴ Greatest fraction = ¾ [E]

33. Okey's share = $\frac{r}{t.r} \times$ sum

= $\frac{\cancel{12}^{6}}{\cancel{22}_{2}} \times \frac{\cancel{55}^{5}}{}$

= 6 x 5

= N30 [D]

34.

3	3	5	7
5	1	5	7
7	1	1	7
	1	1	1

∴ L.C.M = 3 x 5 x 7

= 105 [E]

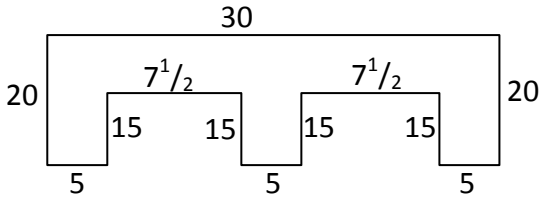
35. Area = $\frac{b \times h}{2}$

= $\frac{32 \times 9}{2}$

= 16 x 9

= 144cm² [C]

36.



Perimeter= 30+20+5+15+$7^1/_2$+15+

5+15+$7^1/_2$+15+5+20

= 160cm [D]

37. Speed = $\frac{\text{Distance}}{\text{Time}}$

= 270 ÷ $\frac{45}{60}$

= $\frac{\cancel{270}^{9}}{\cancel{45}_{3}} \times \frac{\cancel{60}^{\cancel{12}^{4}}}{\cancel{9}}$

= 90 x 4

= 360km/h [C]

38. Police = 160

Army = 200

Difference = A – P

= 200 – 160

= 40 [D]

39. Army = 200

Airforce = 120

Navy = 100

Total = 200 + 120 + 100

= 420 [B]

40. Army [B]

41. C

42. D

43. D

44. E

45. A

46. A

47. E

48. B

49. D

50. E

MATHEMATICS ANSWERS (2002)

1. CMIX

CM = 900

IX = 9

909

∴ CMIX = 909 [e]

2. A line of symmetry or diagonal

[D]

3. 1 2 . 0 9 0 0

0 0. 8 8 3 0

0 4 . 2 0 0 0

0 8 . 1 3 2 4

2 5 . 3 0 5 4 [A]

4. It will be Saturday [B]

5. 2.025 x 100

= 202.5cm [B]

6. 0 . 1 0 5

4 . 2

0 2 1 0

0 4 2 0

0.4 4 1 0

∴ 0.105 x 4.2 = 0.441 [B]

7. $^3/_7$ of x = 15

$\frac{3}{7} \times x = 15$

$\frac{3}{7}x = \frac{15}{1}$

3x x 1 = 7 x 15

$\frac{3}{3}x = \frac{7 \times 15}{3}$

x = 7 x 5

= 35 [A]

8. 71,089 = 71,000 to the nearest thousand [E]

9. 45% of 200

$\frac{45}{100}$ x $\frac{200}{1}$

= 45 x 2

= 90 [C]

10. $\frac{1}{2} - \frac{1}{4} + 1^2/_3$

$\frac{1}{2} - \frac{1}{4} + \frac{5}{3}$

L.C.M = 12

$\frac{6 - 3 + 20}{12}$

$= \frac{3 + 20}{12}$

$= \frac{23}{12}$

$= 1^{11}/_{12}$ [E]

11. Five minutes to two [C]

12. $\frac{15}{100}$ x $\frac{7500}{1}$

= 15 x 75

= 1,125

Increase = 1,125 + 7500

= 8625 [A]

13. 4 in 256741 is tens [B]

14. 8000 – Eight thousand

65 – Sixty-five

8065 – Eight thousand and sixty-five [B]

15. $1^1/_2$ of $4^1/_2 \div 2^1/_4$

$= \frac{3}{2} \times \frac{9}{2} \div \frac{9}{4}$

$= \frac{3}{2} \times \frac{9}{2} \times \frac{4}{9}$

$= \frac{3 \times 2}{2}$

$= {}^6/_2$

= 3 [Bonus]

16. Largest angle = $\frac{r}{t.r}$ x sum

$= \frac{4}{9}$ x 180

= 4 x 20

$= 80^o$ [E]

17. y – 5 = 3

y = 3 + 5

y = 8

$\therefore y^2 = (8)^2$

= 8 x 8

= 64 [A]

18. Area = πr^2

$= \frac{\overset{10}{\cancel{22}}}{7} \times \frac{7}{2} \times \frac{7}{\cancel{2}}$

= 11 x 7

$= {}^{77}/_2$

$= 38.5cm^2$ [C]

19.
$$\begin{array}{r} 6.12 \\ \times \quad 1.4 \\ \hline 2448 \\ 612 \\ \hline 8.568 \end{array}$$

= 8.568 [D]

20. 55% = $\frac{55}{100}$

= 0.55 [C]

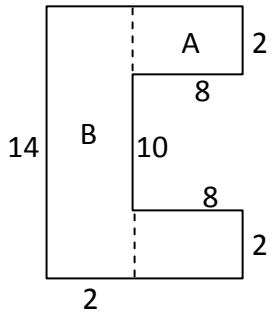
21.

3	21	36	54
3	9	12	18
	3	4	6

∴ H.C.F = 3 x 3

= 9 [B]

22.



Area of A = L x B
= 8 x 2
= 16

Area of B = L x B
= 14 x 2
= 28

Area of C = L x B
= 8 x 2
= 16

∴ Total Area = 16 + 28 + 16
= 60cm² [D]

23. opp = $\sqrt{(hyp)^2 - (adj)^2}$

= $\sqrt{(13)^2 - (12)^2}$

= $\sqrt{169 - 144}$

= $\sqrt{25}$

= 5cm [A]

24. Circumference = 2πr

= 2 x $\frac{22}{7}$ x 7

= 2 x 22

= 44cm [E]

25. $90^o + 63^o + x^o = 180^o$

$153^o + x^o = 180$

x = 180 – 153

$x = 27^o$ [B]

26. $^{21}/_{22}$ x $1\,^{4}/_{5} \div {}^{63}/_{10}$

$\frac{21}{22} \times \frac{9}{5} \div \frac{63}{10}$

$= \frac{\cancel{21}^{3}}{\cancel{22}} \times \frac{\cancel{9}}{\cancel{5}} \times \frac{\cancel{10}^{\cancel{7}}}{\cancel{63}_{\cancel{7}}}$

$= {}^{3}/_{11}$ [E]

27. Let the amount of money shared be x

Mohammed's share = $\frac{r}{t.r}$ x sum

$3 = \frac{2}{9} \times x$

$\frac{3}{1} = \frac{2x}{9}$

$2x \times 1 = 3 \times 9$

2x = 27

$x = {}^{27}/_{2}$

x = 13.5 [D]

28. x + 105 + 43 + 62 = 360

x + 210 = 360

x = 360 – 210

x = 150 [D]

29. let the capacity of the bucket be x

$x - \frac{5x}{7} = 100$

$\frac{7x - 5x}{7} = \frac{100}{1}$

$\frac{2x}{7} = \frac{100}{1}$

2x = 7 x 100

$\frac{2x}{2} = \frac{700}{2}$

x = 350 [C]

30. Average = $\frac{\text{sum of number}}{\text{total number}}$

$36 = \frac{12 + 40 + x + 60 + 20}{5}$

$\frac{36}{1} = \frac{132 + x}{5}$

132 + x = 5 x 36

132 + x = 180

x = 180 – 132

x = 48 [B]

31. $A = L^2$

$\sqrt{69} = \sqrt{L^2}$

L = 13

∴ Perimeter = 4L

= 4 x 13

= 52cm

32. 51, 53, 55, 57, 59 [D]

33.

2	6	8	12
2	3	4	6
2	3	2	3
3	3	1	3
	1	1	1

∴ L.C.M = 2 x 2 x 2 x 3

= 24

2	6	8	12
	3	4	6

∴ H.C.F = 2

Product = 24 x 2

= 48 [E]

34. Selling price = $\frac{100\% + G\%}{100}$ x C.P

$= \frac{100\% + 10\%}{100} \times 2600$

$= \frac{110}{\cancel{100}} \times 26\cancel{00}$

= 110 x 26

= N2,860 [B]

35. Distance = Speed ÷ Time

$= 20 \div \frac{30}{60}$

$= \frac{20}{1} \times \frac{60}{30}$

= 20 x 2

= 40km [A]

36. Principal = $\frac{100 \times S.I}{R \times T}$

$= \frac{100 \times 55.50}{^{3}\!/_{2} \times 2}$

$= \frac{5550}{3}$

= N1,850 [C]

37. $2x - 15 = 5 - 3x$

$2x + 3x = 5 + 15$

$\frac{5x}{5} = \frac{20}{5}$

$x = 4$ [C]

38. Y^o is an obtuse angle [C]

39. $x^2 - 9 = 0$

$x^2 = 9$

$\sqrt{x^2} = \sqrt{9}$

$x = 3$

OR

$x^2 - (3)^2 = 0$

$(x - 3)(x + 3) = 0$

$x - 3 = 0$ or $x + 3 = 0$

$x = 3$ or $x = -3$ [C]

40. Circumference = $2\pi r$

$44 = 2 \times \frac{22}{7} \times r$

$\frac{44}{1} = \frac{44r}{7}$

$\frac{44}{44}r = \frac{7 \times 44}{44}$

$x = 7cm$

$\therefore$ Area = πr^2

$= \frac{22}{7} \times 7 \times 7$

$= 22 \times 7$

$= 154cm^2$ [B]

41. B

42. D

43. B

44. E

45. B

46. C

47. C

48. D

49. E

50. A

MATHEMATICS ANSWERS (2003)

1. 1st angle $= 43^o$

2nd angle $= 43 + 43$

$= 86^o$

$\therefore$ 3rd angle $= 180 - [43 + 86]$

$= 180 - 129$

$= 51^o$ [E]

2. 89,107 = 89,000 to the nearest thousand [B]

3. 5/8, ¾, ¼, ½, 2/3

L.C.M = 24

$\frac{15, 18, 6, 12, 16}{24}$

Decreasing order:

¾, $^{2}/_{3}$, $^{5}/_{8}$, ½, ¼ [C]

4. $1^{3}/_{4}$ of $1^{1}/_{14}$ – ½

$\frac{7}{4} \times \frac{15}{14} - \frac{1}{2}$

$= \frac{15}{8} - \frac{1}{2}$

$= \frac{15 - 4}{8}$

$= {}^{11}/_{8}$

$= 1^{3}/_{8}$ [D]

5. $\frac{80}{0.002} \times \frac{1000}{1000}$

$= \frac{80,000}{2}$

= 40,000 [E]

6. $I = \frac{90,000}{2500}$

= 36 months

Since 12 months = 1yr

∴ 36 months = $^{36}/_{12}$

= 3 years [A]

7. $25\% = \frac{25}{100}$

= 0.25 [C]

8. $10 - {}^{1}/_{10}$

$\frac{100 - 1}{10} = \frac{99}{10}$

= 9.9 [B]

9. C.P = 10,000

S.P = 10,500

Gain = S.P – C.P

= 10,500 – 10,000

= 500

∴ $\text{Gain\%} = \frac{G}{C.P} \times 100$

$= \frac{500}{10,000} \times 100$

= 5% [D]

10. Average = $\frac{\text{sum of numbers}}{\text{total numbers}}$

$= \frac{28 + 40 + 52 + 27 + 13}{5}$

$= \frac{160}{5}$

= 32 [D]

11. -2x(3x – 4)

$-6x^2 + 8x$ [C]

12. let his initial money be x

x - 2,500 = $^{3}/_{5}$ x x

$x - 2,500 = \frac{3x}{5}$

$x - \frac{3x}{5} = 2,500$

$\frac{5x - 3x}{5} = 5 \times 2500$

$\frac{2x}{2} = \frac{12,500}{2}$

x = 6,250 [Bonus]

13. Area = $\frac{(a + b)h}{2}$

$= \frac{(3 + 5)6}{2}$

$= \frac{8 \times 6}{2}$

= 4 x 6

= 24cm² [B]

14. Area = b x h

$45 = \frac{18 \times h}{2}$

$\frac{45}{1} = \frac{18h}{2}$

$\frac{18h}{18} = \frac{2 \times 45}{18}$

$h = {}^{90}/_{18}$

h = 5cm [E]

15. Perimeter = $2\pi r$

$66 = 2 \times \frac{22}{7} \times r$

$\frac{66}{1} = \frac{44r}{7}$

44r = 7 x 66

$\frac{44r}{44} = \frac{462}{44}$

R = 10.5 [D]

16. $a^2 + b^2$

$(1)^2 + (1)^2$

= 1 + 1

= 2 [C]

17. abd

= 1 x (-1) x 0

= 0 [D]

18. Joseph's share = $\frac{r}{t.r}$ x sum

$= \frac{3}{5}$ x 10,500

= 3 x 2100

= N6,300 [C]

19. $\frac{x + 5}{3} = \frac{7}{1}$

x + 5 = 3 x 7

x + 5 = 21

x = 21 – 5

x = 16 [D]

20. $(-1^1/_2)(-3^1/_5)(-2)$

$= -^3/_2 \times {}^{16}/_5 \times -^2/_1$

$= {}^{48}/_5$

$= 9^3/_5$ [C]

21. $^4/_t = {}^5/_3$

t x 5 = 4 x 3

$\frac{5t}{5} = \frac{12}{5}$

$T = 2^2/_5$ [C]

22. 1 minute = 6^o

$\therefore$ 20 minutes = 6 x 20

$= 120^o$ [D]

23. $\frac{25pq^6}{5p^2q^4} = \frac{25 \times p \times q \times q \times q \times q \times q \times q}{5 \times p \times p \times q \times q \times q \times q}$

$= \frac{5q^2}{p}$ [C]

24. 10cm = 1dm

$1\ dm^3 = 10cm^3$

25. let the number be x

$\frac{3}{4} \times x - \frac{2}{5} \times x = 26$

$\frac{3x}{4} - \frac{2x}{5} = 26$

$\frac{15x - 8x}{20} = 26$

$\frac{7x}{20} = \frac{26}{1}$

$\frac{7x}{7} = \frac{520}{7}$

x = 74.28

$x \approx 74$ [Bonus]

26. $L = 3 \times B$

$= 3B$

Perimeter $= 2(L + B)$

$56 = 2(3B + B)$

$56 = 2 \times 4B$

$\frac{56}{8} = \frac{8B}{8}$

$B = 7$

$\therefore L = 3 \times B$

$= 3 \times 7$

$= 21cm$ [C]

27. 0 [A]

28. $2a - 3b + 3a$

$= 2(5) - 3(3) + 3(5)$

$= 10 - 9 + 15$

$= 1 + 15$

$= 16$ [D]

29. $\frac{1}{2} \times 1\frac{2}{3} + 1\frac{1}{2} - \frac{3}{4}$

$\frac{1}{2} \times \frac{5}{3} + \frac{3}{2} - \frac{3}{4}$

$\frac{5}{6} + \frac{3}{2} - \frac{3}{4}$

L.C.M = 24

$= \frac{20 + 36 - 18}{24}$

$= \frac{38}{24}$

$= \frac{19}{12}$

$= 1\frac{7}{12}$ [C]

30. $\frac{5x}{5} = \frac{25}{5}$

$x = 5$

$\therefore 2x^2 = 2 \times (5)^2$

$= 2 \times 25$

$= 50$ [E]

31. Cost price $= \frac{100}{100\% + G\%} \times S.P$

$= \frac{100}{100\% + 25\%} \times 1{,}200$

$= \frac{\cancel{100}^{4}}{\cancel{125}_{5}} \times \cancel{1200}^{240}$

$= 4 \times 240$

$= N960$ [C]

32. $5 + 10 + 25 + 15 + 5$

$= 40 + 20$

$= 60$ [E]

33. April has the highest number of babies [A]

34. January and June has equal number of babies [D]

35. March has no baby recorded [A]

36. January – April

$25 - 5 = 20$ [D]

37. He will turn 180^o [B]

38. $3x + 2x = 180$

$\frac{5x}{5} = \frac{180}{5}$

$x = 36^o$ [C]

39. Line XY is called a chord [A]

40. A cuboid has 12 edges [D]

41. D 46. C

42. B 47. C

43. D 48. D

44. B 49. A

45. B 50. B

MATHEMATICS ANSWERS (2004)

1. Fifty thousand = 50,000
   Five thousand = 5,000
   Fifteen = 15
   55,015
   ∴ Fifty five thousand and fifteen
   = 55,015 [A]

2. $^{x}/_{5} = {}^{15}/_{1}$
   x x 1 = 5 x 15
   x = 75 [B]

3. $\frac{80}{100}$ x 20
   = 8 x 2
   = 16 [A]

4. Diameter [B]

5. T = $\frac{S.I \times 100}{P \times R}$
   = $\frac{\cancel{100} \times \cancel{64}}{\cancel{64}0 \times \cancel{5}}$
   = 2 years [A]

6. 1 5 4 3 8
   0 2 4 3 1
   0 1 6 2 6
   5 0 2 4 9 2
   5 2 1 9 8 7 [A]

7. $\frac{1}{4} \times x = 64$
   $\frac{x}{4} = 64$
   x = 4 x 64
   x = 256 [A]

8. [Bonus]

9. 2y + 3y + 5 = 20
   5y = 20 – 5
   $\frac{5y}{5} = \frac{15}{5}$
   y = 3 [B]

10. 1 minutes = $\frac{135}{3}$
    = 45
    ∴ 4 minutes = 45 x 4
    = N180.00 [C]

11. 4, 1, 2, 0, 5, 3, 4
    Rearrange: 0, 1, 2, 3, 4, 4, 5
    Median = 3 [D]

12. C.C = πd
    = $\frac{22}{\cancel{7}} \times \frac{3}{\cancel{21}}$
    = 22 x 2
    = 66cm [A]

13. opp = $\sqrt{(hyp)^2 - (adj)^2}$
    = $\sqrt{(10)^2 - (8)^2}$
    = $\sqrt{100 - 64}$
    = $\sqrt{36}$
    = 6cm [D]

14. 110 + 2p = 180
    2p = 180 – 110
    $\frac{2p}{2} = \frac{70}{2}$
    p = 35° [E]

15. 1 second = 6°
    ∴ 15 seconds = 6 x 15
    = 90° [E]

16. 100 + 50 + x = 180

$150 + x = 180$

$x = 180 - 150$

$x = 30^o$ [E]

17. Tony's share = $\frac{r}{t.r}$ x sum

$= \frac{3}{7} \times 49$

$= 3 \times 7$

$= 21$

Joy's share = $\frac{r}{t.r}$ x sum

$= \frac{4}{7} \times 49$

$= 4 \times 7$

$= 28$

$\therefore$ Difference $= 28 - 21$

$= 7$ [B]

18. 1 bottle = 120

$\therefore$ x bottle = $\frac{1000}{120}$

$= 8^1/_2$

≈ 8 [B]

19. $5 : 14 = 1 : n$

$\frac{5}{14} = \frac{1}{n}$

$5 \times n = 14 \times 1$

$\frac{5n}{5} = \frac{14}{5}$

$n = 2.8$ [B]

20. $a = 4, b = 3$

$(a + b)(a - b)$

$= (4 + 3)(4 - 3)$

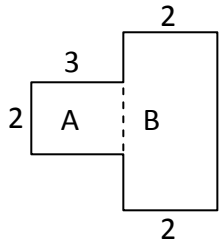
$= 7 \times 1$

$= 7$ [B]

21. 24.97 seconds [E]

22. 216 is a perfect cube [E]

23.



Area of A $= L \times B$

$= 3 \times 2$

$= 6$

Area of B $= L \times B$

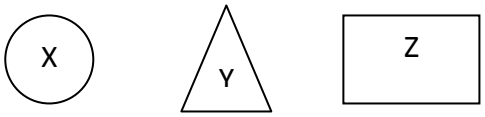
$= 8 \times 2$

$= 16$

$\therefore$ Total area $= 6 + 16$

$= 22cm^2$ [B]

24.



Circle Triangle Rectangle

[B]

25. $t + 1 = 9$

$t = 9 - 1$

$t = 8$

$\therefore t^2 + 6 = 8^2 + 6$

$= 64 + 6$

$= 70$ [C]

26. Average = $\frac{\text{Sum of number}}{\text{Total number}}$

$\frac{36}{1} = \frac{12 + 20 + m + 40 + 60}{5}$

$\frac{36}{1} = \frac{132 + m}{5}$

$132 + m = 5 \times 36$

$132 + m = 180$

m = 180 – 132

m = 48 [C]

27. (30 – n) years [C]

28.
$$\begin{array}{r} 0.07 \\ 6.30 \\ 3.63 \\ \hline 10.00 \end{array}$$
[C]

29. Mean = $\frac{\text{sum of numbers}}{\text{Total numbers}}$

$= \frac{2.5 + 4 + 2.8 + 8.5 + 4.2 + 2}{6}$

$= \frac{240}{6}$

= 4 [D]

30. 2, 1, 1, 4, 2, 2

Mode = 2

Mean = $\frac{1 + 1 + 2 + 2 + 2 + 4}{6}$

$= \frac{12}{6}$

= 2

Sum = 2 + 2

= 4 [D]

31. a – 5 = 3

a = 3 + 5

a = 8

∴ $a^2 = (8)^2$

= 64 [E]

32. $\frac{2.25 \times 10}{2.25 + 2.75}$

$= \frac{22.5}{5}$

= 4.50 [C]

33. Big angle = $\frac{r}{t.r}$ x sum

$= {}^{5}/_{10} \times 180$

= 5 x 18

$= 90^o$ [C]

34. 3 shirts = 550 x 3

= N1650

2 shoes = 2,500 x 2

= N5000

∴ Sum = 5000 + 1650

= N6,650 [D]

35. Area = L^2

$64 = L^2$

$L = \sqrt{64}$

L = 8

∴ Perimeter = 4L

= 4 x 8

= 32m [D]

36. Salary = 3600 x 12

= N43,200 [A]

37. Area = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{55 + 75}{2}$

$= \frac{130}{2}$

= 65 [B]

38. let the number be x

x x 5 + 10 = 60

5x + 10 = 60

5x = 60 – 10

$\frac{5x}{5} = \frac{50}{5}$

x = 10 [D]

39. H.C.F

3	9	18	27
3	3	6	9
	1	2	3

∴ H.C.F = 3 x 3

= 9

2	16	24
2	8	12
2	4	6
2	2	3
3	1	3
	1	1

L.C.M = 2 x 2 x 2 x 2 x 2 x 3

= 48

Difference = 48 – 9

= 39 [D]

40. 100cm = 1m

∴ 1cm = $\frac{1}{100}$

xcm = $\frac{x}{100}$

= 0.01x m [D]

41. C

42. E

43. C

44. D

45. C

46. A

47. B

48. C

49. D

50. E

MATHEMATICS ANSWERS (2005)

1. Let the number of mangoes shared be x

∴ smallest share = $\frac{r}{t.r}$ x sum

$25 = \frac{2}{10} \times x$

$\frac{25}{1} = \frac{2x}{10}$

$\frac{2}{2}x = \frac{250}{2}$

x = 125 [D]

∴ The number of mangoes shared was 125

2. ¾, $^5/_8$, $^7/_{12}$, $^2/_3$

L.C.M = 24

$\frac{18, 15, 14, 16}{24}$

∴ In ascending order:

$^7/_{12}$, $^5/_8$, $^2/_3$, ¾ [C]

3. Let the third number be x

$x \times 36 = 216$

$\frac{36}{36}x = \frac{216}{36}$

x = 6 [A]

4. Time = $\frac{\text{Distance}}{\text{Speed}}$

$= \frac{96}{48}$

= 2 hrs [E]

5. 1 Orange = 9 kobo

∴ 115 oranges = 9 x 115

$= \frac{1035}{100}$

= N10.35k [C]

6. 1 . 6 2

2 . 5 2

3 . 4 2

1 . 1 2

0 . 9 6

9 . 6 4

7. 516

500 = D

10 = X

6 = VI

∴ 516 = DXVI [B]

8. 2 in 1472.25 is two tenths [C]

9. Prime numbers between 60 and 70 are 61 and 67 [C]

10. The next term is 50 [A]

11. c = 3, d = -2

x = 2c + d

= 2(3) + -2

= 6 – 2

= 4 [C]

12. 7y + 5 = 20

7y = 20 – 5

$\frac{7y}{7} = \frac{15}{7}$

$y = 2^1/_7$ [C]

13. $\frac{6ab}{18cb} = \frac{x}{6c}$

$\frac{18cb}{3b} = 6c$

$\frac{6ab}{3b} = 2a$

∴ x = 2a [E]

14. The least is -35 [E]

15. Let the number be x

x x 5 – 15 = 25

5x – 15 = 25

5x = 25 + 15

$\frac{5x}{5} = \frac{40}{5}$

x = 8 [C]

16. $x : 2^1/_2 = 4 : 15$

$X \div {}^5/_2 = {}^4/_{15}$

$x \times {}^2/_5 = {}^4/_{15}$

$\frac{2x}{5} = \frac{4}{15}$

$2x \times 15 = 5 \times 4$

$\frac{30x}{30} = \frac{20}{30}$

$x = {}^2/_3$ [D]

17. 8 is a perfect cube [A]

18. $\frac{b}{3} = \frac{27}{3}$

$\frac{3 \times b}{3} = \frac{3 \times 27}{3}$

b = 27

$\frac{3b}{3} = \frac{81}{3}$

$b = 27$ [D]

19. $\frac{2a}{2} = \frac{120}{2}$

$a = 60$

$\therefore a + 1 = 60 + 1$

$= 61$ [D]

20. $4 - r$ [E]

21. $30 - x$ [E]

22. Average $= \frac{\text{sum of number}}{\text{total number}}$

$= \frac{118}{n}$ [B]

23. 10 [D]

24. Part A = x minutes

Part B = 20 minutes

$\therefore$ Total time = (20 + x)minutes

[D]

25. Area of rectangle = L x b

$48 = 6 \times b$

$\frac{48}{6} = \frac{6b}{6}$

$b = 8cm$

$\therefore$ Perimeter = 2(L + b)

$= 2(6 + 8)$

$= 2(14)$

$= 28cm$

Since Perimeter of square = perimeter of rectangle

Recall; Perimeter of square = 4L

$\therefore \frac{28}{4} = \frac{4L}{4}$

$L = 7cm$ [D]

26. A plane figure bounded by four sides is called a quadrilateral. [B]

27. Area $= \frac{b \times h}{2}$

$144 = \frac{32 \times h}{2}$

$\frac{144}{1} = \frac{32h}{2}$

$32h = 2 \times 144$

$\frac{32h}{32} = \frac{288}{32}$

$h = 9.0cm$ [D]

28. Area of the outside = L x b

$= 10 \times 5$

$= 50cm^2$

Area of the inside = L x b

$= 5 \times 3$

$= 15$

$\therefore$ Area of shaded portion

$= 50 - 15$

$= 35cm^2$ [C]

29. Time $= \frac{S.I \times 100}{P \times R}$

$= \frac{250 \times 100}{2000 \times 5}$

$= {}^{5}/_{2}$

$= 2^{1}/_{2}$ years [C]

30. The sum of two right angle is equal to 180^o [C]

31. 15, 14, 15, 13, 16, 16, 17, 13, 16, 17

Mode = 16 [D]

32. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{15+14+15+13+16+16+16+17+13+16+17}{10}$

$= \frac{155}{10}$

= 15.5 [E]

33. 13, 13, 14, 15, 15, 16, 16, 16, 17, 17

Median = $\frac{15 + 16}{2}$

$= \frac{33}{2}$

= 16.5 [B]

34. 0, since there is no coke bottle in the freezer. [E]

35. 5 squares [B]

36. 16 triangles [C]

37. 20 right angle [E]

38. Volume = L x b x h

280 = 8 x 7 x h

$\frac{280}{56} = \frac{56h}{56}$

h = 5cm [A]

39. Perimeter or Circumference

$= 2\pi r$

$= 2 \times \frac{22}{7} \times 7$

= 2 x 22

= 44cm [C]

40. 3y + 4y + 3y = 180

(sum of angles on a straight line)

$\therefore \frac{10y}{10} = \frac{180}{10}$

$Y = 18^o$ [E]

41. C

42. E

43. E

44. C

45. D

46. D

47. B

48. D

49. D

50. C

MATHEMATICS ANSWERS (2008)

1. One hundred and forty-eight thousand = 148,000

Sixty = 60

= 148,060 [C]

2. 50925

51,000 to the nearest thousand

26800 – 51000

= -24,200 [C]

3. 5 in 954,716 stands for 5 ten thousand or 50,000 [C]

4. 121 is a perfect square [D]

5. x < y means x is less than y [D]

6. let the second one be x

x x -3 = 24

$\frac{-3x}{-3} = \frac{24}{-3}$

x = -8 [A]

7. $\frac{6pq}{18rq} = \frac{\square}{6r}$

$\frac{6pq}{3q} = 2p$

$\frac{18rq}{3q} = 6r$ [A]

8. 1993

1000 = M

900 = CM

90 = XC

3 = III

∴ 1993 = MCMXCIII [C]

9. $4 : 15 = a : 2\frac{1}{2}$

$4 : 15 = a : \frac{5}{2}$

$\frac{4}{15} = a \div \frac{5}{2}$

$\frac{4}{15} = \frac{a}{1} \times \frac{2}{5}$

$\frac{4}{15} = \frac{2a}{5}$

$\frac{30}{30}a = \frac{20}{30}$

$a = \frac{2}{3}$ [B]

10. $\frac{m}{4} = \frac{42}{2}$

$2 \times m = 4 \times 42$

$\frac{2}{2}m = \frac{168}{2}$

m = 84 [D]

11. z + 2 = 8

z = 8 – 2

z = 6

∴ $z^2 + 5 = (6)^2 + 5$

$= 36 + 5$

$= 41$ [E]

12. 6x + 3x – x = 24

8x = 24

$\frac{8}{8}x = \frac{24}{8}$

x = 3 [D]

13. 4x + 45y – 3x – 40y

4x – 3x + 45y – 40y

x + 5y [C]

14. $\sqrt{13\frac{4}{9}} = \sqrt{\frac{121}{9}}$

$= \frac{11}{3}$

$= 3\frac{2}{3}$ [E]

15. Volume = L^3

$216 = L^3$

$\sqrt[3]{216} = L$

L = 6 [D]

16. Area = L x B

225 = 15 x B

$\frac{225}{15} = \frac{15}{15}B$

B = 15 [B]

17. $\frac{7x + 4}{2} = 9$

7x + 4 = 2 x 9

7x + 4 = 18

7x = 18 – 4

$\frac{7}{7}x = \frac{14}{7}$

x = 2 [E]

18. 2a + 7a + 3 = 30

9a + 3 = 30

9a = 30 – 3

$\frac{9}{9}a = \frac{27}{9}$

a = 3 [D]

19. m + 50 = 40

m = 40 – 50

m = -10

∴ $m^2 = (-10)^2$

= 100 [A]

20. 7 days = 1 week

$\frac{49}{7}$ = 7 weeks [C]

21. odd number: 25, 27, 29, 31, 33, 35

∴ sum = 25+27+29+31+33+35

= 180 [B]

22. y = 11

$\therefore x = \frac{8 - y}{3}$

$x = \frac{8 - 11}{3}$

$= -{}^{3}/_{3}$

x = –1 [D]

23. $\sqrt{\frac{9}{16} m^2 t^2}$

$= \frac{3}{4} mt$ [B]

24.

2	96	120	144
2	48	60	72
2	24	30	36
3	12	15	18
	4	5	6

∴ H.C.F = 2 x 2 x 2 x 3

= 24 [E]

25. 40 + 60 = 100

100 = C [C]

26. A line that divides a circle into two equal part is called a diameter. [C]

27. The sum of angles on a straight line is equal to 180^o [C]

28. A plane figure bounded by three straight lines is called a triangle [E]

29. $39^o + 90^o + y^o = 180$

129 + y = 180

y = 180 – 129

$y = 51^o$ [D]

30. A cube has u edges [D]

31. L = 2b

Perimeter = 2(L + b)

36 = 2(2b + b)

36 = 4b + 2b

$\frac{36}{6} = \frac{6b}{6}$

b = 6

∴ Length = 2b

= 2 x 6

= 12cm [C]

32. C.C = 2πr

$= 2 \times \frac{22}{7} \times \frac{7}{2}$

= 22 [D]

33. y = 1, x = 3, z = 5

$M = \left(\frac{x \times 2z}{y+9}\right)$

$= \frac{3 \times 2(5)}{1 + 9}$

$= \frac{3 \times 10}{10}$

$= \frac{30}{10}$

$= 3$ [C]

34. Cylinder, triangle and cone [c]

35. Area of ABCD = L x B

= 8 x 6

= 48

Area of EFGH = L x B

= 5 x 3

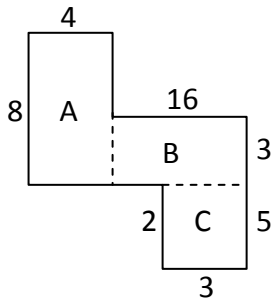
= 15

∴ Area of shaded portion

= 48 – 15

= 33 [B]

36.



Area of A = L x B

= 8 x 4

= 32cm²

Area of B = L x B

= 16 x 3

= 48cm²

Area of C = L x B

= 2 x 3

= 6cm²

∴ Total Area = 32 + 48 + 6

= 80 + 6

= 86cm² [C]

37. Area = πr^2

$= \frac{22}{7} \times 7 \times 7$

= 22 x 7

= 154cm² [C]

38. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{70 + 60 + 30 + 100 + 90 + 70}{6}$

$= \frac{420}{6}$

= N70 [C]

39. 1, 2, 3, 4, 5, 5, 6, 6, 6, 7, 8, 8, 9

Mode = 6 [E]

40. 1, 2, 3, 4, 5, 5,| 6| 6, 6, 7, 8, 8, 9

Median = 6 [D]

41. A

42. C

43. A

44. E

45. D

46. A

47. B

48. E

49. C

50. C

MATHEMATICS ANSWERS (2010)

1. Sixty-nine thousand = 69000
   Ten = 10
   69010 [B]

2. 1998
   1000 = M
   900 = CM
   90 = XC
   8 = VIII
   ∴ 1998 = MCMXCVIII [B]

3. 79,469 = 79,500 to the nearest hundred [D]

4. $4^4/_5 - {}^3/_5 + ½$
   $^{24}/_5 - {}^3/_5 + ½$
   L.C.M = 10
   $= \frac{48 - 6 + 5}{10}$
   $= \frac{42 + 5}{10}$
   $= {}^{47}/_{10}$
   $= 4^7/_{10}$ [C]

5. 3 in 48.372 is tenth [C]

6.

3	9	18	27
3	3	6	9
	1	2	

   ∴ H.C.F = 3 x 3
   = 6 [B]

7. $\sqrt{\frac{9}{16}m^2t^2}$
   $= \frac{3}{4}$ mt [A]

8. 25% of 3000
   $= \frac{25}{100} \times 3000$
   = 25 x 30
   = 750
   ∴ Increase = 3000 + 750
   = N3,750 [E]

9. The shaded portion of the circle is called a segment [E]

10. 45 is not a perfect square [D]

11. 1 block = $\frac{240}{3}$
    = 80
    ∴ 5 blocks = 80 x 5
    = N400 [D]

12. 1 week = 500 x 7
    = 3500
    ∴ 3 weeks = 3500 x 3
    = N10,500 [A]

13. Emeka's share = $\frac{r}{t.r}$ x sum
    $= {}^5/_8$ x 15000
    = 5 x 1875
    = N9375 [A]

14. 5x – 4 = 2x + 20
    5x – 2x = 20 + 4
    $\frac{3}{3}x = \frac{24}{3}$
    x = 8 [C]

15. 15, 10, 5, 0, -5 [E]

16. let the number be x
    2 x x + 3 = 13
    2x + 3 = 13

$2x = 13 - 3$

$\frac{2x}{2} = \frac{10}{2}$

$x = 5$ [B]

17. Prime numbers; 2, 3, 5, 7, 11

Sum = 2 + 3 + 5 + 7 + 11

= 28 [E]

18. (15 + n) years [B]

19. let the number be x

$x \times {}^{2}/_{3} = 18$

$\frac{2x}{3} = \frac{18}{1}$

$2x = 18 \times 3$

$2x = \frac{18 \times 3}{2}$

$x = 3 \times 9$

$x = 27$ [C]

20. $({}^{1}/_{8} \times 100)\%$

$= \frac{100}{8}$

= 12.50% [B]

21. 1 7 . 4 2 6

9 . 8 9 0

3 . 4 0 0

3 0 . 7 1 6 [A]

22. Each face of a cuboid is in the shape of a rectangle. [C]

23. Chike's height = (4 + y)cm [A]

24. Audu's share = $\frac{r}{t.r}$ x sum

$= \frac{5}{8} \times 24^{3}$

= 5 x 3

= 15 oranges [D]

25. Ascending order;

-35, -18, -10, 5, 15 [D]

26. Smallest angle = $\frac{r}{t.r}$ x sum

$= \frac{2}{12} \times 180^{3}$

$= 30$ [A]

27. x = 2, y = 1

$\frac{x - y}{x + y}$

$= \frac{2 - 1}{2 + 1}$

$= {}^{1}/_{3}$ [D]

28. ${}^{x}/_{4} = 100$

$x = 4 \times 100$

$x = 400$

$\therefore \frac{x}{2} = \frac{400}{2}$

$= 200$ [C]

29. $\frac{2x}{5} = \frac{10}{1}$

$2x = 5 \times 10$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25$ [D]

30. Area = L x B

$40 = 8 \times B$

$\frac{8B}{8} = \frac{40}{8}$

B = 5cm [E]

31. $A = L^2$

$\sqrt{961} = \sqrt{L^2}$

L = 31cm [B]

32. $1 - \frac{7}{12}$

$= \frac{12 - 7}{12}$

$= {}^{5}/_{12}$ [D]

33. $T = \frac{100 \times S.I}{P.R}$

$= \frac{\cancel{100} \times \cancel{37}^{3}}{\cancel{450} \times \cancel{2}}$

$= 3$ years [C]

34. Twenty five minutes past two [B]

35. opp $= \sqrt{(hyp)^2 - (adj)^2}$

$= \sqrt{(10)^2 - (8)^2}$

$= \sqrt{100 - 64}$

$= \sqrt{36}$

$= 6$ [C]

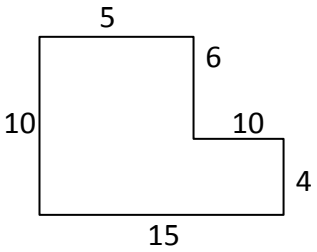
36. $y + 44 + 90 = 180$

$y + 134 = 180$

$y = 180 - 134$

$y = 46^{o}$ [B]

37.



Perimeter = 10+ 5+ 6+ 10+ 4+ 15

= 50cm [A]

38. Mode = 18 [D]

39. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{16+14+13+16+18+19+20+15+18+18}{10}$

$= 16{}^{7}/_{10}$

$= 16.7$

≈ 17 to the nearest tens [C]

40. Median =

13, 14, 15, 16,|16, 18,| 18, 18, 19, 20

$= \frac{16 + 18}{2}$

$= {}^{34}/_{2}$

$= 17$ [C]

41. A 46. C

42. D 47. A

43. A 48. C

44. E 49. A

45. B 50. E

MATHEMATICS ANSWERS (2011)

1. XL = 40

IX = 9

49

∴ XLIX = 49 [D]

2. Twenty thousand = 20,000

Five thousand = 5,000

Five = 5

25,005 [D]

3. 2 in 204.14 is hundreds [A]

4.

2	12	18	24
2	6	9	12
2	3	9	6
3	3	9	3
3	1	3	1
	1	1	1

$\therefore$ L.C.M = 2 x 2 x 2 x 3 x 3

= 72 [B]

5. $^{7}/_{12}, {}^{2}/_{3}, ¾, {}^{5}/_{8}$

L.C.M = 24

$= \frac{14, 16, 18, 15}{24}$

$\therefore$ Descending order

$= ¾, {}^{2}/_{3}, {}^{5}/_{8}, {}^{7}/_{12}$ [A]

6. $9^2 + \sqrt{9}$

= 81 + 3

= 84 [D]

7. $(2\pi\sqrt{a})^2$

$= 4\pi^2 a$ [D]

8. $\frac{30}{60} \times \frac{5}{100}$

= 50% [B]

9. 200 is not a perfect square [A]

10. let the number be x

$^{2}/_{3} \times x = 10$

$\frac{2x}{3} = \frac{10}{1}$

$\frac{2x}{2} = \frac{30}{2}$

x = 5 [D]

11. $S.I = \frac{P \times R \times T}{100}$

$= \frac{6ØØ \times 9 \times 5}{1ØØ}$

= 6 x 9 x 5

= 270 [E]

12. C.P = 9,000

S.P = 6,300

Loss = C.P – S.P

= 9000 – 6300

= 2,700

$\therefore$ P.L = $\frac{L}{C.P} \times 100$

$= \frac{2700}{9000} \times 100$

= 30% [D]

13. Girls = $\frac{r}{t.r} \times$ sum

$= \frac{7}{9} \times 45^{5}$

= 7 x 5

= 35 [A]

14. Nana's age ten years ago =

(m – 10) years [B]

15. 1 orange = $\frac{30}{5}$

= 6

$\therefore$ 80 oranges = 6 x 80

= N480 [B]

16. Let the number be x

$\frac{35}{100} \times x = 70$

$\frac{35x}{100} = \frac{70}{1}$

$\frac{35x}{35} = \frac{7000^{2}}{35}$

$x = 200$ [D]

17. 6p.m – 3a.m = 45mins

Recall that 1min = 6°

∴ 45mins = 6 x 45

= 270° [E]

18. 2(x + 1) = 4

2x + 2 = 4

2x = 4 – 2

$\frac{2x}{2} = \frac{2}{2}$

x = 1 [C]

19. $\frac{6y}{6} = \frac{36}{6}$

y = 6

$\therefore \frac{y^2}{2} = \frac{(6)^2}{2}$

$= {}^{36}/_{2}$

= 18 [C]

20. $\frac{36}{x} = \frac{6}{5}$

x x 6 = 5 x 36

$\frac{6x}{6} = \frac{5 \times 36^{6}}{6}$

x = 5 x 6

x = 30 [B]

21. Time = $\frac{\text{Distance}}{\text{Speed}}$

$= {}^{10}/_{20}$

= ½ x 60

= 30mins [B]

22. 1 day work = $\frac{1000}{5}$

= 200

∴ 22 days work = 22 x 20

= N4,400 [C]

23. Time = 12.00am

Mohammed's watch = 12.00am - 15

= 11:45a.m [B]

24. $1^{1}/_{2}$ yrs = 18 months

1 month = 5,400

∴ 18 months = 18 x 5,400

= N97,200 [A]

25. $50^o + 90^o + x^o = 180$

140 + x = 180

x = 180 – 140

$x = 40^o$ [B]

26. $a^o + 95^o + 80^o + 70^o = 360$

$a^o + 245 = 360$

a = 360 – 245

$a = 115^o$ [B]

27. 1, 1, 3, 3, 5, 4, 4, 2, 2, 2, 2

Mode = 2 [B]

28. 0, 1, 2, 4, 4, 5, 5, 6

Median = $\frac{4 + 4}{2}$

$= {}^{8}/_{2}$

= 4 [C]

29. 40, 49, 61, 47, 33

Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{230}{5}$

= 46 [C]

30. Area = πr^2

$= \frac{\overset{11}{\cancel{22}}}{\cancel{7}} \times \frac{7}{\cancel{2}} \times \frac{\cancel{7}}{2}$

$= {}^{77}/_{2}$

$= 38{}^{1}/_{2}$ or $38.5cm^2$ [C]

31. A to B = 120m

B to C = ${}^{2}/_{3} \times 120$

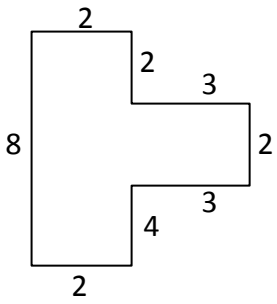
= 2 x 40

= 80cm

A to C = 120 + 80

= 200m [C]

32.



Perimeter = 2+2+3+2+3+4+2+8

= 26cm [E]

33. hyp $= \sqrt{(opp)^2 + (adj)^2}$

$= \sqrt{(6)^2 + (8)^2}$

$= \sqrt{36 + 64}$

$= \sqrt{100}$

= 10cm [B]

34. A = 10, B = 20, C = 5, D = 25, E = 10

∴ Total = 10 + 20 + 5 + 25 + 10

= 70 [E]

35. 1 school failed [A]

36. School D is the best [B]

37. School A and E has the same scores? [D]

38. lex x be added

112.6 + x = 172.40

x = 172.40 – 112.6

x = 59.80 [E]

39. 1999 = 2000 to 2. sf [E]

40. $5{}^{2}/_{3} \times ¾ + ½$

$\frac{17}{3} \times \frac{3}{4} + \frac{1}{2}$

$= \frac{17}{4} + \frac{1}{2}$

$= \frac{17 + 2}{4}$

$= {}^{19}/_{4}$

$= 4{}^{3}/_{4}$ [B]

41. A
42. D
43. C
44. D
45. D
46. E
47. B
48. D
49. D
50. E

MATHEMATICS ANSWERS (2012)

1. MCDIV

M = 1000

CD = 400

IV = 4

1404

∴ MCDIV = 1,404 [B]

2. 33,246 = 33,000 to 2 s.f [D]

3. 50,000 = fifty thousand

6,000 = six thousand

1 = 0ne

∴ 56,001 = Fifty-six thousand and one [B]

4. $4^1/_2 - 3^1/_3$

$= \frac{9}{2} - \frac{10}{3}$

$= \frac{27 - 20}{6}$

$= 1^1/_6$ [C]

5. $\frac{6}{25} \times \frac{4}{4}$

$= \frac{24}{100}$

$= 0.24$ [A]

6. 3,455 = 3,500 to the nearest 100 [A]

7. Factors of 12 = 1, 2, 3, 4, 6, 12

∴ Prime factors = 2, 3 [D]

8.
3 3 1 7 0
8 0 9
1 0 9 0
1 0 9 3 0
4 5 9 9 9 [B]

9. 3 in 204.34 is tenths [B]

10. 500 – (30 x 9)

= 500 – 270

= 230 [E]

11.

2	12	15	18
2	6	15	9
3	3	15	9
3	1	5	3
5	1	5	1
	1	1	1

∴ L.C.M = 2 x 2 x 3 x 3 x 5

= 180 [A]

12.
0 . 0 7 3
6 . 3 0 0
2 . 1 2 0
8 . 4 9 3

13. 9am – 3pm = 30mins

5 mins = 30°

∴ 30mins = 180° [D]

14. A line that divides a circle into two equal parts is called a diameter [B]

15. Area = L^2

$169 = L^2$

$L = \sqrt{169}$

L = 13cm [A]

16. A triangle with two opposite sides equal is called an isosceles triangle [B]

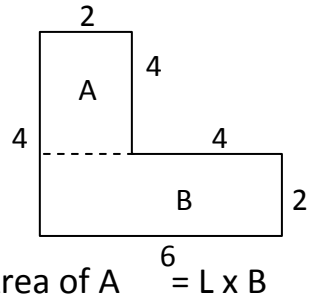
17. Perimeter = 2(L + B)

= 2(120 + 65)

= 240 + 130

= 370m [C]

18.



Area of A = L x B

= 4 x 2

= 8

Area of B = L x B

= 6 x 2

= 12

∴ Area of above figure = 8 + 12

= 20cm² [B]

19. Area = πr^2

$= \frac{22}{7} \times 7 \times 7$

= 154cm² [D]

20. 111 + x = 180

x = 180 – 111

x = 69° [B]

21. adj $= \sqrt{(hyp)^2 - (opp)^2}$

$= \sqrt{(10)^2 - (6)^2}$

$= \sqrt{100 - 36}$

$= \sqrt{64}$

= 8cm [D]

22. Area = πr^2

$= \frac{22}{\cancel{7}} \times 14 \times \cancel{14}^{2}$

= 22 x 14 x 2

= 616cm² [D]

23. K + 55 + 45 = 180

K + 100 = 180

K = 180 – 100

K = 80° [D]

24. Least angle = $\frac{r}{t.r}$ x sum

$= \frac{3}{18} \times 150$

= 3 x 10

= 30° [A]

25. (25a + 9d) – (10a – 5d)

25a + 9d – 10a + 5d

25a – 10a + 9d + 5d

15a + 14d [B]

26. $\frac{6}{x} = \frac{1}{2}$

$x \times 1 = 6 \times 2$

x = 12 [E]

27. let the number be x

$\frac{2}{3} \times x = 25$

$\frac{2x}{3} = \frac{24}{1}$

$2x \times 1 = 3 \times 25$

$\frac{2x}{2} = \frac{75}{2}$

x = 37.5

28. Father's age = 10 x 3

= 30 years [C]

29. a = 5, b = -2, c = 3

ab – c

= 5(–2) – 3

= –10 – 3

= –13 [A]

30. 1 orange = $\frac{200}{100}$

∴ 20 oranges = 2 x 20

= N40 [C]

31. a = c + 7, b = 5

∴ a + b

c + 7 + 5

= c + 12 [A]

32. $\frac{2}{y} + 4 = 8$

$\frac{2}{y} = 8 - 4$

$\frac{2}{y} = \frac{4}{1}$

33. $2(1 + 3x) = 14$

$2 + 6x = 14$

$6x = 14 - 2$

$\frac{6x}{6} = \frac{12}{6}$

$x = 2$ [A]

34. Present age = 12 yrs

8 years ago = 12 – 8

= 4 yrs [E]

35. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{13 + 7 + 0 + 4 + 9 + 9}{6}$

$= \frac{42}{6}$

= 7.0 [A]

36. 8 children do not like beans [B]

37. Yam is liked by four children [D]

38. 10 children like plantain [E]

39. 28 children were involved in the survey [D]

40. The most frequently occurring number in a set of number is called the mode [E]

41.	B	46.	C
42.	A	47.	C
43.	A	48.	C
44.	C	49.	A
45.	D	50.	A

MATHEMATICS ANSWERS (2013)

1. Forty-two thousand = 42,000

Eighteen = 18

42,018

[E]

2. 0 . 0 2

7. 4 0

2 . 5 8

10 . 0 0 [C]

3.

2	16	24
2	8	12
2	4	6
2	2	3
3	1	3
	1	1

∴ L.C.M = 2 x 2 x 2 x 2 x 3

= 48 [E]

4. $\frac{1m}{100} = \frac{100cm}{100}$

$1cm = \frac{1}{100} m$

$\therefore xcm = (0.01)x\ m$ [A]

5. let the number be x

$6x + 5 = 35$

$6x = 35 - 5$

$\frac{6x}{6} = \frac{30}{6}$

$x = 5$ [B]

6. $\frac{3y}{3} = \frac{27}{3}$

$y = 9$ [C]

8. $\frac{2 \times 10}{2 + 3} = \frac{20}{5}$

$= 4$ [C]

9. smallest angle $= \frac{r}{t.r} \times$ sum

$= \frac{2}{10} \times 180$

$= 2 \times 18$

$= 36^o$ [C]

10. Perimeter = 4L

$\frac{32}{4} = \frac{4L}{4}$

$L = 8$

$\therefore A = L^2$

$= (8)^2$

$= 64cm^2$ [A]

11. 75% of 48

$\frac{\cancel{75}^{3}}{\cancel{100}_{20}} \times \frac{\cancel{48}^{12}}{\cancel{4}}$

$= 3 \times 12$

$= 36$ [B]

12. 3 shirts = 3 x 550

$= 1650$

2 shoes = 2 x 2500

$= 5000$

$\therefore$ Total = 1650 + 5000

$= N6,650$ [D]

13. 4 5 0 0

1 2

9 0 0 0

4 5 0 0

5 4, 0 0 0

$\therefore$ He is paid N54,000 [B]

14. 3 : 2 = P : 4

$^3/_2 = {}^P/_4$

$2 \times P = 3 \times 4$

$\frac{2P}{2} = \frac{12}{2}$

$P = 6$ [E]

15. $2x + 5x = 35$

$\frac{7x}{7} = \frac{35}{7}$

$x = 5$ [C]

16. $S.I = \frac{P \times R \times T}{100}$

$= \frac{850 \times \cancel{15}^{3} \times 2}{\cancel{100}_{2}}$

$= 85 \times 3$

= N255 [C]

17. Ogaga's share = $\frac{r}{t.r}$ x sum

$= \frac{2}{5} \times \frac{2}{1000}$

= 2 x 200

$= \frac{400}{2}$

= N200 [D]

18. 10 minutes = 60^o [D]

19. 1 tin = $\frac{360}{4}$

∴ 12 tins = 90 x 12

= N1,080 [C]

20. x = 8, y = $^1/_{24}$, z = 30

$^1/_5$ x x x y x z

$= \frac{1}{5} \times \frac{8}{1} \times \frac{1}{24} \times \frac{30}{1}$

$= {}^6/_3$

= 2 [E]

21. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{65 + 55}{2}$

$= \frac{120}{2}$

= 60 [D]

22. 4 bottle water = 4 x 35

= N140

∴ 3 bottle of wine = 450 – 140

= N310 [C]

23. q = -3, r = ½,

$\frac{1}{r} \times \frac{q}{r}$

= 1 ÷ r x q ÷ r

= 1 ÷ ½ x – 3 ÷ ½

$= \frac{1}{1} \times \frac{2}{1} \times \frac{-3}{2} \times \frac{2}{1}$

= -12 [A]

24. Perimeter = 2πr

= 2 x $\frac{22}{7}$ x 7

= 2 x 22

= 44cm [D]

25. x + 3 = 8

x = 8 – 3

x = 5

∴ x + $\sqrt{9}$ = 5 + 3

= 8 [C]

26. Let the number be x

$\frac{2}{3} \times x = 40$

$\frac{2x}{3} = \frac{40}{1}$

$\frac{2x}{2} = \frac{40 \times 3}{2}$

x = 20 x 3

x = 60 [C]

27. Perimeter = 2(L + B)

28 = 2(L + 4)

28 = 2L + 8

28 – 8 = 2L

$\frac{20}{2} = \frac{2L}{2}$

L = 10

$\therefore$ Area = L x B

= 10 x 4

= 40cm² [E]

28. Present age = 7 + 6

= 13

$\therefore$ 8 yrs time = 13 + 8

= 21 yrs [E]

29. 3, 2, 3, 3, 4, 2, 3, 2

2, 2, 2, |3, 3,| 3, 3, 4

$\therefore$ Median = $\frac{3 + 3}{2}$

= $^{6}/_{2}$

= 3 [B]

30. Sum = 250 + 150

= 400

Product = 25 x 8

= 200

$\therefore$ Difference = 400 – 200

= 200 [C]

31. Average = $\frac{\text{sum of number}}{\text{total number}}$

= $\frac{15 + 3 + 10 + 17 + 8 + 6 + 4}{7}$

= $^{63}/_{7}$

= 9 [E]

32. 3t + 2t = 180

$\frac{5t}{5} = \frac{180}{5}$

t = 36 [E]

33. 40 + x + x = 180

40 + 2x = 180

2x = 180 – 40

2x = $\frac{140}{2}$

x = 70 [C]

34. The longest side of a right angle triangle is called hypothenus [C]

35. 85 + 5k = 180

5k = 180 – 85

$\frac{5k}{5} = \frac{95}{5}$

K = 19 [C]

36. opp = $\sqrt{(hyp)^2 - (adj)^2}$

= $\sqrt{(15)^2 - (12)^2}$

= $\sqrt{225 - 144}$

= $\sqrt{81}$

= 9cm [C]

37. Area = $\frac{b \times h}{2}$

225 = $\frac{9 \times h}{2}$

9 x h = 450

$\frac{9h}{9} = \frac{450}{9}$

h = 50cm [E]

38. Average = $\frac{\text{sum of number}}{\text{total number}}$

= $\frac{2.2 + 3.5 + 1.3 + 6.0 + 2.0}{5}$

= $^{15}/_{5}$

= 3 [B]

39. Median = 1, 1, 2, 2, 2, 4

$= \frac{2 + 2}{2}$

$= {}^{4}/_{2}$

$= 2$

Mode = 2

Sum = 2 + 2

= 4 [C]

40. Mean = $\frac{2 + 3 + 4 + 5 + 7 + 9}{6}$

$= {}^{30}/_{6}$

= 5

41. A
42. C
43. C
44. E
45. A
46. D
47. B
48. A
49. E
50. A

MATHEMATICS ANSWERS (2014)

1. 744

700 = DCC

40 = XL

4 = IV

∴ 744 = DCCXLIV [B]

2. 3 in 8,318 is hundreds [C]

3. CCC

C = 100

C = 100

C = 100

300

∴ CCC = 300 [B]

4. A quadrilateral has 4 angles [B]

5.

2	2	3	5	7
3	1	3	5	7
5	1	1	5	7
7	1	1	1	7
	1	1	1	1

∴ L.C.M = 2 x 3 x 5 x 7

= 210 [E]

6. Shape (i) is a cylinder [A]

7. 563 + ___ = 721

Let the number be x

563 + x = 721

x = 721 – 563

x = 158 [C]

8. $(2^{1}/_{2} + 1^{2}/_{3}) \div {}^{5}/_{6}$

$\frac{5}{2} + \frac{5}{3} \div \frac{5}{6}$

$= \frac{15 + 10}{6} \div \frac{5}{6}$

$= \frac{25}{6} \div \frac{5}{6}$

$= \frac{25}{6} \times \frac{6}{5}$

= 5 [E]

9. 546 x 1711 x 0

= 0 [E]

10. $5 - 8x = 29$

$-8x = 29 - 5$

$\frac{-8x}{-8} = \frac{24}{-8}$

$x = -3$ [A]

11. $^2/_5, ½, ^1/_3, ¾, ^2/_3$

L.C.M = 60

$\frac{24, 30, 20, 45, 40}{60}$

∴ smallest fraction = $^1/_3$ [E]

12. A three sided plane figure is called a triangle [E]

13. $2(3x + 3) = 18$

$6x + 6 = 18$

$6x = 18 - 6$

$\frac{6x}{6} = \frac{12}{6}$

$x = 2$ [A]

14.

3	15	18	28
	5	6	7

∴ H.C.F = 3 [A]

15.

2	2	3
3	1	3
	1	1

∴ L.C.M = 2 x 3

= 6 [B]

16. 1 bag = N12,000

∴ 3 bags = N12,000 x 3

= N36,000 [D]

17. 6204 x 0.0031

0 . 0 0 3 1

6 2 0 4

0 0 1 2 4

0 0 0 0 0

0 0 0 6 2

0 0 1 8 6

0 0 1 9 . 2 3 2 4 [A]

18. let the number be x

$^x/_9 = 32$

$x \times 1 = 9 \times 32$

x = 288 [D]

19. $a = 58^o$ (opp ∠s of an Isso △)

b + 55 + 58 = 180

b = 180 – 116

b = 64

∴ a + b = 58 + 64

= 122^o [D]

20. 980 – 50

$= \frac{930}{2}$

= 465

∴ Emaniru's share = N465

Odorige's share = 465 + 50

= N515 [D]

21. $\frac{t}{9} = \frac{16}{18}$

Cross multiply

t x 18 = 9 x 16

$\frac{\cancel{18}t}{\cancel{18}} = \frac{\cancel{9} \times \overset{8}{\cancel{16}}}{\cancel{18}_{\cancel{2}}}$

t = 8 [A]

22. 1 kilometer = $^{30}/_{2}$

= 15mins

∴ 5 kilometers = 15 x 5

= 75mins [D]

23. 1 month = N8,200

∴ 3 months = 8200 x 3

= N24,600 [D]

24. x = 3, y = 5, z = -1

xy – yz

= 3(5) – 5(-1)

= 15 + 5

= 20 [E]

25. Area = L x B

= 12 x 10

= 120cm² [B]

26. hyp $= \sqrt{(opp)^2 + (adj)^2}$

$= \sqrt{(4)^2 + (3)^2}$

$= \sqrt{16 + 9}$

$= \sqrt{25}$

= 5cm [B]

27. % of lemon left = 100% - 25%

= 75%

∴ lemon left = $\frac{\cancel{75}^{15}}{\cancel{100}_{\cancel{4}}} \times \cancel{140}^{7}$

= 15 x 7

= 105 [Bonus]

28. 75 + 81 + x = 180

156 + x = 180

x = 180 – 156

x = 25° [D]

29. $\sqrt{625} = \sqrt{25 \times 25}$

= 25 [D]

30. Area = πr²

$= \frac{22}{7} \times 7 \times 7$

= 22 x 7

= 154cm² [B]

31. y² + 18 = 27

y² = 27 – 18

y² = 9

y = $\sqrt{9}$

y = 3 [A]

32. A closed cylinder has 2 circular faces [B]

33. Average Speed = $\frac{\text{Distance}}{\text{Time}}$

$= \frac{200}{25}$

= 8m/s [D]

34. C.P = N160

S.P = 8 x 25

= N200

Gain = N40

G.P = $\frac{G}{C.P} \times 100$

$= \frac{\cancel{40}^{5}}{\cancel{160}_{\cancel{8}}} \times \cancel{100}^{5}$

= 5 x 5

= 25% [C]

35. 100cm = 1m

∴ 6m = 600cm

$= \frac{\cancel{600}^{4}}{\cancel{15}}$

= 40 pieces [E]

36. 15 is not a perfect square [C]

37. $\frac{x}{15} = \frac{1}{3}$

3 x x = 15 x 1

$\frac{3x}{3} = \frac{15}{3}$

x = 5 [B]

38. 1200 – 100

$= \frac{1100}{2}$

= 550

∴ Tunde got = N550 [B]

39. 70 + 55 + P = 180

125 + P = 180

P = 180 – 125

P = 55° [A]

40. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{6 + 8 + 7 + 3 + 2 + 4}{6}$

$= {}^{30}/_{6}$

= 5 [C]

41. E

42. E

43. C

44. D

45. C

46. A

47. E

48. B

49. D

50. A

MATHEMATICS ANSWERS (2015)

1. 5 in 4.053 is 5 hundredths [E]

2. One thousand = M

Five hundred = D

Eighty = LXXX

Four = IV

= MDLXXXIV [C]

3. 1 . 4 2

0 . 1 0

0 . 7 0

2 . 2 2 [C]

4. ${}^{1}/_{5}$, ¾, ${}^{7}/_{8}$, ½

L.C.M = 40

$\frac{8, 30, 35, 20}{40}$

Descending order

= ${}^{7}/_{8}$, ¾, ½, ${}^{1}/_{5}$ [A]

5. $\sqrt[3]{\frac{8}{27}} = \frac{2}{3}$ [B]

6. 0.007 to 3 d.p [D]

7. boys : girls

25 : 15

$= {}^{25}/_{15}$

$= {}^{5}/_{3}$

= 5:3 [C]

8. 12, [13], 14, 15, 16, [17], 18, [19], 20

∴ prime numbers = 3 [B]

9. Eight million = 8,000,000

Two hundred thousand = 200,000

Nine = 9

8,200,009

10.

3	9	12	15
	3	4	5

∴ H.C.F = 3 [B]

11. $^{5}/_{8}$ =

$$\begin{array}{r|l} & 0.625 \\ 8 & 50 \\ & -48 \\ & 20 \\ & -16 \\ & 40 \\ & -40 \\ & 00 \end{array}$$

$^{5}/_{8}$ = 0.625 [B]

12. let the number be x

$x + 1^{1}/_{2} + 2^{1}/_{4} = 5^{1}/_{2}$

$x = 5^{1}/_{2} - 1^{1}/_{2} - 2^{1}/_{4}$

$= \frac{11}{2} - \frac{3}{2} - \frac{3}{4}$

$= \frac{22 - 6 - 9}{4}$

$x = {}^{7}/_{4}$

$x = 1^{3}/_{4}$ [C]

13.

2	15	24
2	15	12
2	15	6
3	15	3
5	5	1
	1	1

∴ L.C.M = 2 x 2 x 2 x 2 x 3 x 5

= 120 [A]

14. C.P = N250

S.P = N300

Gain = S.P – C.P

= 300 – 250

= 50

G.P = $\frac{G}{C.P}$ x 100

= $\frac{50}{250}$ x $\frac{100}{1}$

= 5 x 4

= 20% [B]

15. Boys = 800 – 435

= 365 [D]

16. S.I = $\frac{P \times R \times T}{100}$

= $\frac{60\cancel{00} \times 3 \times 5}{1\cancel{00}}$

= 60 x 3 x 5

= 900 [D]

17. 1 packet = $^{180}/_{2}$

= 90

∴ 12 packets = 90 x 12

= N1,080 [C]

18. 1 hour = (10 x 15) days

6 hours = $\frac{\overset{5}{\cancel{10} \times \cancel{15}}}{\cancel{6}_{\cancel{3}}}$

= 5 x 5

= 25days [B]

19. c = 2, a = 4, b = 5, d = 0

$\therefore c^2 + a^2$

$= (2)^2 + (4)^2$

= 4 + 16

= 20 [B]

20. bcd = 5 x 2 x 0

= 0 [D]

21. C.C = 2πr

$= 2 \times \frac{\overset{11}{\cancel{22}}}{\cancel{7}} \times \frac{\cancel{7}}{\cancel{2}}$

= 2 x 11

= 22cm [B]

22. let the number be x

$\frac{1}{4} \times x = 15$

$\frac{x}{4} = \frac{15}{1}$

$x = 4 \times 15$

$x = 60$ [A]

23. Area = L^2

$25 = L^2$

$L = \sqrt{25}$

L = 5m [A]

$\therefore$ Perimeter = 4L

= 4 x 5

= 20cm

24. $\frac{3 \times 2}{2 + 4}$

$= {}^{6}/_{6}$

= 1 [A]

25. 5 minutes = 30^o

5 : 30 = x : 180

$\frac{5}{30} = \frac{x}{180}$

$x \times 30 = \frac{5 \times 180}{30}$

$x = 5 \times 6$

x = 30 minutes [C]

26. 3y + 4y = 49

$\frac{7y}{7} = \frac{49}{7}$

y = 7 [B]

27. Volume of cuboid = L x b x h

360 = 7 x x x 8

$\frac{360}{72} = \frac{72x}{72}$

x = 5cm [A]

28. y – 2 = 6

y = 6 + 2

y = 8

$\therefore y + \sqrt{4}$

8 + 2 = 10 [C]

29. Perimeter

= 8 + 2 + 4 + 3 + 2 + 3 + 2 + 2

= 26cm [E]

30. Present age = 2 + 7

= 9yrs

5 yrs time = 9 + 5

= 14 yrs [E]

31. 50 + 2y + 100 = 180

150 + 2y = 180

2y = 180 – 150

$\frac{2y}{2} = \frac{30}{2}$

y = 15 [E]

32. The sum of two right angle is equal to 180^o [C]

33. $\frac{c}{3} = \frac{27}{3}$

Cross multiply

$\frac{C \times 3}{3} = \frac{3 \times 27}{3}$

C = 27 [D]

35. opp $= \sqrt{(hyp)^2 - (adj)^2}$

$= \sqrt{(5)^2 - (3)^2}$

$= \sqrt{25 - 9}$

$= \sqrt{16}$

= 4cm [B]

36. let the number be x

5 x x – 4 = 16

5x – 4 = 16

5x = 16 + 4

$\frac{5x}{5} = \frac{20}{5}$

x = 4 [B]

37. Area = L x B

40 = L x 5

$\frac{40}{5} = \frac{5L}{5}$

L = 8 [B]

38. Area of ABCD = L x b

= 12 x 7

= 84

Area of EFGH = L x B

= 4 x 3

= 12

∴ Area of shaded portion

= 84 – 12

= 72cm [C]

39. 2, 2, 3, 4, 2, 3, 5, 7 and 9

Mode = 2 [A]

40. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{13 + 14 + 12 + 9 + 8 + 10}{6}$

$= \frac{66}{6}$

= 11 [D]

41. B

42. A

43. D

44. D

45. C

46. C

47. E

48. D

49. B

50. E

MATHEMATICS ANSWERS (2016)

1. CM = 900

   LXXX = 80

   II = 2

   982

   ∴ CMLXXXXIV = 982 [B]

2. Eight million = 8,000,000

   Two hundred thousand = 200,000

   Nine = 9

   = 8,200,009

   [D]

3. $7^1/_2\% = \frac{15}{2} = \frac{100}{1}$

   $= \frac{15}{2} \times \frac{1}{\cancel{100}\ 20}$

   $= \frac{3}{40}$ [C]

4. $\sqrt{2\frac{1}{4}} = \sqrt{\frac{9}{4}}$

   $= {}^3/_2$

   $= 1^1/_2$ [E]

5.

3	9	27
3	3	9
	1	3

   ∴ H.C.F = 3 x 3

   = 9 [C]

6. a = 8, b = 6

   ∴ $a^2 - b^2 = 8^2 - 6^2$

   = 64 – 36

   = 28 [D]

7. x = -2

   $x^3 = (-2)^3$

   = -2 x -2 x -2

   = -8 [A]

8. 1 orange = 150

   15

   = N10

   C.P = 10

   S.P = 12

   Gain = S.P – C.P

   = 12 – 10

   = N2

   P.G = G x 100

   C.P 1

   $= \frac{2}{\cancel{10}} \times 100$

   = 2 x 10

   = 20% [C]

9.

2	8	12	16
2	4	6	8
	2	3	4

   ∴ H.C.F = 2 x 2

   = 4

2	8	12	16
2	4	6	8
2	2	3	4
2	1	3	2
3	1	3	1
	1	1	1

∴ L.C.M = 2 x 2 x 2 x 2 x 3

= 48

∴ Sum = 48 + 4

= 52 [C]

10. a = 6, b = 7, c = 4

$\sqrt{3a + 2b + c}$

$= \sqrt{3(6) + 2(7) + 4}$

$= \sqrt{18 + 14 + 4}$

$= \sqrt{36}$

= 6 [C]

11. 1 loaf = $\frac{1,260}{14}$

= 90

∴ 3 loaves = 3 x 90

= N270 [E]

12. y + (y + 12) + (y + 18) = 180

y + y + 12 + y + 18 = 180

3y + 30 = 180

3y = 180 – 30

$\frac{3y}{3} = \frac{150}{3}$

y = 50 [B]

13. $P^2 - 8 = 17$

$p^2 = 17 + 8$

$p^2 = 25$

$p = \sqrt{25}$

p = 5 [B]

14.

2	3	4	5
2	3	2	5
3	3	1	5
5	1	1	5
	1	1	1

∴ L.C.M = 2 x 2 x 3 x 5

= 60 [E]

15. $^2/_3 + ¼$ of $(1^1/_2 + ½)$

$^2/_3 + ¼ \times (^3/_2 + ½)$

$= \frac{2}{3} + \frac{1}{4} \times \left(\frac{3+1}{2}\right)$

$= \frac{2}{3} + \frac{1}{4} \times \frac{4}{2}$

$= \frac{2}{3} + \frac{1}{2}$

$= \frac{4 + 3}{6}$

$= 1^1/_6$ [B]

16. S.I = $\frac{P \times R \times T}{100}$

$= \frac{400 \times 6 \times 4}{100}$

= 4 x 6 x 4

= N96 [C]

17. 2 : 3 = 750 : x

$\frac{2}{3} = \frac{750}{x}$

2 x x = 3 x 750

$\frac{2x}{2} = \frac{2250}{2}$

x = N1125

∴ The total cost = 1125 + 750

= N1,875 [C]

18. 100 kobo = 1 naira

∴ 200 kobo = 2 naira [B]

19. Perimeter = 4L

= 4 x P

= 4p cm [C]

20. 130 = 7 + 20x + 3

130 = 20x + 10

130 – 10 = 20x

$\frac{120}{20} = \frac{20x}{20}$

x = 6 [C]

21. $y^2 - x = 7$

$y^2 - 9 = 7$

$y^2 = 7 + 9$

$y^2 = 16$

$y = \sqrt{16}$

y = 4 [B]

22. 4 – x = 3x

4 = 3x + 3

$\frac{4}{4} = \frac{4x}{4}$

x = 1

∴ 2x = 2 x 1

= 2 [E]

23. $\frac{39}{x} = \frac{3}{1}$

$\frac{39}{3} = \frac{3x}{3}$

x = 13 [E]

24. 3(x + 5) = -6

3x + 15 = -6

3x = -6 – 15

$\frac{3x}{3} = \frac{-21}{3}$

x = -7 [A]

25. The sum of angles on a straight line = 180^o [C]

26. Average speed = $\frac{\text{Distance}}{\text{Time}}$

$= \frac{160}{2}$

= 80km/hr [E]

27. 2x – 8 = 0

2x = 0 + 8

$\frac{2x}{2} = \frac{8}{2}$

x = 4 [D]

28. Speed = $\frac{D}{T}$

$= \frac{400}{40}$

= 10m/s [D]

29. d x 100

= 100d kobo [E]

30. Area = Base x Height

= 10 x 7

= $70cm^2$ [A]

31. Perimeter = 2(L + B)

= 2(10 + 5)

= 20 + 10

= 30cm [D]

32. *x* x y = ~~N~~*x*y [E]

33. $x + x + 1$

$= 2x + 1$ [C]

34. $\frac{3}{4} + r = 1$

$r = 1 - \frac{3}{4}$

$r = \frac{4 - 3}{4}$

$r = ¼$ [D]

35. Area $= \pi r^2$

$= \frac{22}{7} \times 7 \times 7$

$= 22 \times 7$

$= 154cm^2$ [B]

36. $\frac{6d}{6} = \frac{54^9}{6}$

$d = 9$ [C]

37. $2y + 8 = 16$

$2y = 16 - 8$

$\frac{2y}{2} = \frac{8}{2}$

$y = 4$ [A]

38. 3, 4, |6, 8,| 9, 10

$\therefore$ Median $= \frac{6 + 8}{2}$

$= {}^{14}/_{2}$

$= 7$ [C]

39. 4, 3, 2, 4, 6, 5, 3, 2, 4

Mode = 4 [B]

40. The average of a given set of number is mean [C]

41. E

42. B

43. D

44. D

45. A

46. A

47. A

48. E

49. D

50. B

MATHEMATICS ANSWERS (2017)

1. 574

500 = D

70 = LXX

4 = IV

$\therefore$ 574 = DLXXIV [B]

2. 0.0579 = 0.058 to 2 s.f [D]

3. ${}^{2}/_{3}$, ${}^{5}/_{6}$, ½ and ¼

L.C.M = 12

$\frac{8, 10, 6, 3}{12}$

$\therefore$ Ascending order:

¼, ½, ${}^{2}/_{3}$, ${}^{5}/_{6}$ [D]

4. $\sqrt{\frac{4}{9}} = {}^{2}/_{3}$ [C]

5. Girls : Boys

20 : 30

$\frac{20}{30} = \frac{2}{3}$

= 2:3 [D]

6. C.P = 1,000 S.P = 800

Loss = C.P – S.P

= 1000 – 800

= 200

∴ Percentage loss = $\frac{L}{C.P} \times \frac{100}{1}$

$= \frac{200}{1000} \times \frac{100}{1}$

= 20% [B]

7. $0.75 = \frac{\cancel{15}^{3}}{\cancel{100}_{\cancel{20}_{4}}}$

$= {}^{3}/_{4}$ [D]

8. $S.I = \frac{P \times R \times T}{100}$

$= \frac{8000 \times 2 \times 4}{100}$

= 80 x 2 x 4

S.I = N640 [A]

9. 1 sachet = $\frac{120}{4}$

= 40

∴ 20 Sachets = 20 x 40

= N800 [A]

10. $\frac{16 + 20}{6 \times 2}$

$= {}^{36}/_{12}$

= 3 [B]

11. ${}^{1}/_{5} \times 100$

= 20% [E]

12. $1 - \frac{6}{11}$

$= \frac{11 - 6}{11}$

$= {}^{5}/_{11}$

∴ ${}^{5}/_{11}$ will remain [D]

13. 80% of N20

$\frac{80}{100} \times 20$

= 8 x 2

= N16 [B]

14. 65 is not a perfect square [C]

15. 1 2 4 0 0

x 1 2

2 4 8 0 0

1 2 4 0 0

1 4 8,8 0 0 = N148,000 [A]

16. $\frac{\cancel{960}^{8}}{\cancel{120}}$

= 8 cans [B]

17. 1 day = $\frac{2000}{10}$

= N200

∴ 5 days = 6 x 200

= N1,200 [E]

18. Let the number be x

$\frac{4}{5} \times x - \frac{1}{5} \times x = 9$

$\frac{4x}{5} - \frac{x}{5} = 9$

$\frac{4x - x}{5} = 9$

$\frac{3x}{5} = 9$

$3x = 45$ (cross multiply)

$\frac{3x}{3} = \frac{45}{3}$

$x = 15$

$\therefore$ The number is 15 [E]

19. One stall = N1,000

$\therefore$ 240 stalls = 1,000 x 240

= N240,000 [E]

20. Ese's age 13 years ago = 23 – 13

= 10 years

Younger sister's age 13 years ago = 19 – 13

= 6 years

$\therefore$ sum = 10 + 6

= 16 years [D]

21. $\frac{1}{2} + \frac{3}{4} - \frac{2}{7} \times \frac{1+6}{3}$

$= \frac{1}{2} + \frac{3}{4} - \frac{2}{7} \times \frac{7}{3}$

$= \frac{1}{2} + \frac{3}{4} - \frac{2}{3}$

L.C.M = 12

$\frac{6 + 9 - 8}{12}$

$= \frac{15 - 8}{12}$

$= {}^{7}/_{12}$ [E]

22. a = 7, b = 5, c = 5

$= \sqrt{3a + 2b + c}$

$= \sqrt{3(7) + 2(5) + 5}$

$= \sqrt{21 + 10 + 5}$

$= \sqrt{36}$

= 6 [E]

23. $4y^2 - 37 = 27$

$4y^2 = 27 + 37$

$\frac{4y^2}{4} = \frac{64}{4}$

$y^2 = 16$

$y = \sqrt{16}$

y = 4 [B]

24. Area of square = L^2

$9 = L^2$

Take the square root of both sides

$\sqrt{9} = \sqrt{L^2}$

L = 3 [A]

25. Perimeter of rectangle = 2(L + B)

$= 2(8^1/_2 + 2^1/_2)$

$= 2\left(\frac{17}{2} + \frac{5}{2}\right)$

$= 2\left(\frac{15+5}{2}\right)$

$= \frac{2}{1} \times \frac{22}{2}$

= 22 [D]

26. 45 + 5t = 90

Collect like terms

5t = 90 – 45

$\frac{5t}{5} = \frac{45^{9}}{5}$

t = 9 [D]

27. Circumference = πd

$= \frac{22}{7} \times \frac{28^{4}}{1}$

= 22 x 4

= 88cm [A]

28. $4x - 2 = 2x + 10$

$4x - 2x = 10 + 2$

$\frac{2x}{2} = \frac{12}{2}$

$x = 6$ [C]

29. $x = 2, y = 4, z = 3$

$\frac{3y + 2z}{x + y}$

$= \frac{3(4) + 2(3)}{2 + 4}$

$= \frac{12 + 6}{6}$

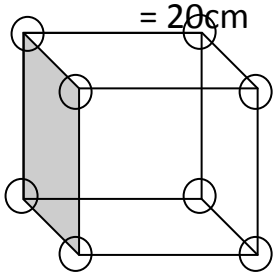
$= \frac{18}{6}$

$= 3$ [A]

30. Perimeter of square = 4L

= 4 x 5

= 20cm [C]

31. 

A cuboid has 8 vertices [E]

32. A line of symmetry is a line that divide a shape into two equal half.

∴ An equilateral triangle has 3 lines of symmetry. [D]

33. Volume of cylinder = $\pi r^2 h$

$1540 = \frac{22}{7} \times 7 \times 7 \times h$

$\frac{1540}{154} = \frac{154}{154} h$

$h = 10cm$ [C]

34. $3x^2 + 4 = 13$

$3x^2 = 13 - 4$

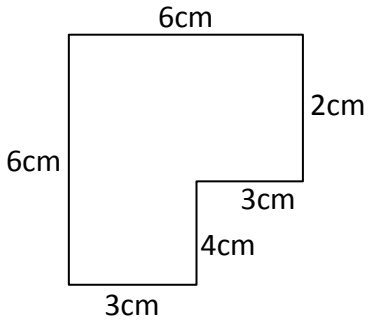
$\frac{3x^2}{3} = \frac{9}{3}$

$x^2 = 3$

∴ $x^2 - 8$

$= 3 - 8$

$= -5$ [D]

35. 

Perimeter = 6 + 2 + 3 + 4 + 3 + 6

= 24cm [A]

36. age five years ago = 6 yrs

Present age = 6 + 5

= 11 yrs

∴ in four years time = 11 + 4

= 15years [E]

37. Breadth = $\frac{\text{Area}}{\text{Length}}$

= 20/10

Breadth = 2cm [D]

38. Area of trapezium = $\frac{(a + b)h}{2}$

$= \frac{(5 + 7)3}{2}$

$= \frac{\overset{6}{\cancel{12}}}{\cancel{2}} \times 3$

$= 6 \times 3$

$= 18cm^2$ [C]

39. 3, 5, 4, 7, 6, 5, 5, 2, 6, 6, 5

Mode = 5 [C]

40. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{10 + 15 + 10 + 13}{4}$

$= \frac{48}{4}$

$= 12$ [B]

41. A

42. C

43. C

44. B

45. B

46. C

47. B

48. C

49. B

50. D

QUANTITATIVE 2000

1. D	16. C	31. A	46. A
2. E	17. A	32. D	47. B
3. A	18. D	33. E	48. A
4. E	19. B	34. B	49. B
5. A	20. C	35. D	50. A
6. B	21. D	36. A	
7. A	22. C	37. E	
8. B	23. B	38. C	
9. E	24. C	39. A	
10. E	25. A	40. A	
11. D	26. E	41. B	
12. D	27. C	42. A	
13. B	28. D	43. D	
14. C	29. C	44. E	
15. B	30. D	45. E	

QUANTITATIVE 2001

1. C	15. B	29. A	43. D
2. B	16. E	30. B	44. C
3. D	17. E	31. D	45. B
4. C	18. B	32. A	46. B
5. D	19. Bonus	33. C	47. A
6. C	20. A	34. D	48. C
7. B	21. E	35. B	49. A
8. C	22. D	36. B	50. D
9. C	23. C	37. A	
10. E	24. D	38. C	
11. A	25. C	39. A	
12. B	26. E	40. B	
13. A	27. B	41. B	
14. D	28. C	42. E	

QUANTITATIVE 2002

1. B	15. E	29. B	43. D
2. C	16. A	30. D	44. E
3. C	17. D	31. B	45. C
4. A	18. A	32. C	46. D
5. A	19. E	33. D	47. E
6. E	20. D	34. E	48. A
7. D	21. C	35. B	49. C
8. E	22. A	36. C	50. C
9. D	23. D	37. E	
10. C	24. C	38. B	
11. C	25. B	39. A	
12. C	26. E	40. D	
13. A	27. A	41. A	
14. E	28. D	42. B	

QUANTITATIVE 2003

1. A	14. D	27. E	40. A
2. D	15. B	28. B	41. E
3. C	16. A	29. A	42. D
4. C	17. C	30. D	43. E
5. A	18. D	31. D	44. B
6. D	19. D	32. A	45. B
7. E	20. B	33. D	46. C
8. D	21. C	34. E	47. A
9. B	22. E	35. E	48. B
10. D	23. B	36. C	49. B
11. D	24. A	37. B	50. E
12. D	25. D	38. A	
13. A	26. A	39. A	

QUANTITATIVE 2004

1. A	15. C	29. C	43. D
2. B	16. A	30. A	44. B
3. E	17. E	31. E	45. D
4. A	18. A	32. C	46. E
5. A	19. B	33. D	47. C
6. B	20. B	34. A	48. E
7. B	21. C	35. B	49. C
8. D	22. E	36. C	50. A
9. C	23. D	37. D	
10. A	24. B	38. B	
11. B	25. B	39. A	
12. A	26. D	40. B	
13. A	27. A	41. D	
14. E	28. A	42. A	

QUANTITATIVE 2005

1. D	14. E	27. E	40. C
2. A	15. B	28. C	41. D
3. D	16. C	29. E	42. D
4. E	17. D	30. A	43. D
5. D	18. D	31. E	44. E
6. D	19. C	32. C	45. D
7. C	20. A	33. D	46. A
8. A	21. A	34. C	47. B
9. A	22. C	35. D	48. B
10. E	23. A	36. B	49. B
11. D	24. A	37. Bonus	50. B
12. B	25. B	38. D	
13. E	26. E	39. D	

QUANTITATIVE 2008

1. A	15. D	29. E	43. B
2. E	16. C	30. B	44. A
3. A	17. A	31. C	45. A
4. E	18. E	32. B	46. D
5. B	19. A	33. E	47. B
6. C	20. E	34. A	48. D
7. E	21. A	35. E	49. D
8. B	22. E	36. A	50. C
9. B	23. B	37. D	
10. A	24. A	38. C	
11. B	25. C	39. C	
12. D	26. A	40. E	
13. D	27. D	41. A	
14. C	28. A	42. C	

QUANTATIVE 2010

1. C	14. A	27. D	40. B
2. B	15. A	28. E	41. A
3. B	16. E	29. B	42. B
4. E	17. C	30. C	43. A
5. D	18. A	31. E	44. A
6. D	19. B	32. B	45. B
7. B	20. D	33. C	46. C
8. E	21. A	34. B	47. D
9. D	22. C	35. B	48. C
10. E	23. D	36. D	49. E
11. E	24. B	37. E	50. A
12. Bonus	25. C	38. D	
13. C	26. A	39. B	

QUANTITATIVE 2011

1. A	15. E	29. A	43. C
2. C	16. C	30. D	44. A
3. B	17. E	31. E	45. B
4. E	18. D	32. C	46. A
5. B	19. A	33. D	47. E
6. D	20. A	34. C	48. E
7. E	21. A	35. E	49. D
8. B	22. E	36. D	50. E
9. D	23. E	37. C	
10. B	24. C	38. D	
11. A	25. E	39. E	
12. A	26. B	40. E	
13. E	27. A	41. C	
14. D	28. A	42. D	

QUANTITATIVE 2012

1. C	14. C	27. B	40. E
2. C	15. A	28. D	41. B
3. D	16. C	29. B	42. B
4. D	17. E	30. B	43. A
5. A	18. B	31. C	44. A
6. B	19. C	32. A	45. B
7. E	20. E	33. Bonus	46. D
8. C	21. D	34. A	47. A
9. A	22. C	35. E	48. D
10. D	23. A	36. C	49. B
11. E	24. D	37. A	50. A
12. C	25. D	38. D	
13. A	26. E	39. B	

QUANTITATIVE 2013

1. B	14. A	27. C	40. D
2. D	15. E	28. D	41. A
3. C	16. E	29. C	42. E
4. A	17. C	30. E	43. A
5. E	18. C	31. D	44. A
6. A	19. C	32. E	45. B
7. D	20. D	33. E	46. A
8. A	21. B	34. E	47. E
9. A	22. A	35. D	48. B
10. E	23. D	36. E	49. D
11. D	24. C	37. D	50. A
12. E	25. A	38. A	
13. A	26. B	39. E	

QUANTITATIVE 2014

1. C	15. C	29. C	43. E
2. A	16. B	30. B	44. D
3. C	17. B	31. A	45. A
4. D	18. D	32. E	46. A
5. C	19. A	33. D	47. D
6. E	20. E	34. A	48. B
7. C	21. D	35. C	49. C
8. E	22. A	36. C	50. B
9. B	23. E	37. E	
10. D	24. B	38. A	
11. A	25. E	39. B	
12. C	26. C	40. D	
13. B	27. A	41. E	
14. D	28. A	42. B	

QUANTITATIVE 2015

1. E	15. B	29. D	43. D
2. A	16. B	30. A	44. A
3. D	17. C	31. E	45. B
4. D	18. E	32. A	46. E
5. D	19. E	33. B	47. D
6. B	20. B	34. A	48. A
7. E	21. E	35. C	49. D
8. C	22. B	36. D	50. C
9. E	23. E	37. A	
10. C	24. C	38. C	
11. D	25. E	39. C	
12. E	26. C	40. B	
13. C	27. A	41. B	
14. D	28. A	42. A	

QUANTITATIVE 2016

1. E	14. D	27. A	40. A
2. E	15. D	28. C	41. C
3. B	16. D	29. B	42. A
4. E	17. C	30. B	43. A
5. A	18. C	31. D	44. E
6. C	19. A	32. C	45. D
7. B	20. D	33. C	46. D
8. A	21. B	34. D	47. A
9. C	22. A	35. C	48. D
10. B	23. D	36. C	49. D
11. C	24. D	37. C	50. E
12. C	25. E	38. E	
13. B	26. D	39. B	

QUANTITATIVE 2017

1. E
2. C
3. A
4. B
5. E
6. A
7. C
8. D
9. E
10. E
11. B
12. B
13. B
14. A
15. B
16. C
17. D
18. C
19. C
20. B
21. B
22. B
23. A
24. B
25. E
26. C
27. A
28. B
29. C
30. D
31. C
32. A
33. D
34. C
35. E
36. A
37. B
38. C
39. B
40. A
41. E
42. D
43. C
44. A
45. B
46. C
47. B
48. B
49. B
50. A

STATE COMMON ENTRANCE EXAMINATION ANSWERS 2007 – 2017

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2007)

1. 1 6 2 8
   - 5 2 0
   1 1 0 8
   8 0 9
   1,9 1 7 [B]

2. 11:45a.m – 1.15p.m = 1hr.30mins
   [D]

3. 5 6 8
   1 6 9
   5 1 1 2
   3 4 0 8
   + 5 6 8
   9 5,9 9 2 kg [C]

4. 32 – 16 = 16 pupils failed. [C]

5. 4 in 4987 is 4000 [D]

6. 1hr = 60mins
   ∴ $\frac{2040}{60}$ = 34 revolutions [D]

7. Volume of cuboid = L x b x h
   400 = 10 x 8 x h
   400 = 80h
   Divide both sides by 80
   $\frac{80}{80}h = \frac{400^{5}}{80}$
   h = 5m [C]

8. Pr(5) = $\frac{n(E)}{n(S)}$
   = $^{1}/_{6}$ [E]

9. x + y + t = 180
   70 + 6 = 180
   Collect like terms
   t = 180 – 70
   t = 110° [D]

10. Mean = $\frac{\text{sum of number}}{\text{total number}}$
    = $\frac{1 + 2 + 3 + 4 + 5}{5}$
    = $^{15}/_{5}$
    = 3 [B]

11. Pr(red) = $\frac{n(E)}{n(S)}$
    = $^{4}/_{12}$
    = $^{1}/_{3}$ [Bonus]

12. Area of FGH = $\frac{b \times h}{2}$
    = $\frac{4 \times 4}{2}$
    = $\frac{16}{2}$
    = 8cm²
    Area of FHIJ = L x b
    = 6 x 4
    = 24cm²
    ∴ Area of FGHIJ = 8 + 24
    = 32cm² [C]

13. Tolu's share = ₦20
    Chuck's share = 52 – 20
    = ₦32
    ∴ Ratio = T : C
    = 20 : 32
    = $^{20^{10^{5}}}/_{32^{16_{8}}}$

= 5 : 8 [A]

14. 9 in 6,924,872 is 900,000

4 in 6,924,872 is - 4,000

896,000

∴ 896,000 is not less than 4,000

[A]

15. Bean = 360 – (40 + 160 + 60)

= 360 – 260

= 100° [D]

16. Gari = $\frac{60}{360}$ x 480

= 10 x 8

= 80 pupils [E]

17. $\frac{p - q}{r} = \frac{13 - 3}{5}$

= $^{10}/_{5}$

= 2 [E]

18. 200,384 = Two hundred thousand, three hundred and eighty-four naira only. [Bonus]

19.

2	12	24	8	16
2	6	12	4	8
2	3	6	2	4
2	3	3	1	2
3	3	3	1	1
	1	1	1	1

L.C.M = 2 x 2 x 2 x 3

= 48 [B]

20. Area of table = L x b

= 43 x 31

= 1,333

Area of newspaper = L x b

= 40 x 29

= 1,160

Area left uncovered = 1,333 - 1160

= 173cm² [D]

21. Pr(John) = $\frac{n(E)}{n(S)}$

= $^{1}/_{6}$ [D]

22. 10, 10, 10, 11, |12,|12, 12, 13, 13, 14

Median = 12 [C]

23. Range = Highest – Lowest

= 14 – 10

= 4 years [A]

24. 0 . 0 8

0 . 4 6 5

8 . 1 4 5

\+ 0 . 3 4

9 . 0 3 0

25. 1 0, 0 0 0

6 7 8 3

3 2 1 7

∴ xxxx = 3217 [D]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2008)

1. $\frac{4r - t + s}{2}$

$= \frac{4(4) - 1 + 2}{2}$

$= \frac{16 - 1 + 2}{2}$

$= {}^{17}/_{2}$

$= 8.5$ [B]

2. 51/4 ÷ 13/4 ÷ 33/4

$\frac{21}{4} \div \frac{7}{4} \div \frac{15}{4}$

$= \frac{\overset{3}{\cancel{21}}}{\cancel{4}} \times \frac{\cancel{4}}{\cancel{7}} \div \frac{15}{4}$

$= \frac{3}{1} \times \frac{4}{15}$

$= \frac{12}{15}$

$= {}^{4}/_{5}$ [C]

3. S.I $= \frac{P \times R \times T}{100}$

$= \frac{1200 \times 4 \times 3}{100}$

$= 12 \times 12$

= ₦144.00 [A]

4. $\frac{7}{8} =$

$$
\begin{array}{r}
0.875 \\
8 \overline{)\, 70} \\
-64 \\
\hline
60 \\
-56 \\
\hline
40 \\
-40 \\
\hline
00
\end{array}
$$

$\therefore {}^{7}/_{8} = 0.875$ [C]

5. Circumference $= 2\pi r$

$= \frac{2 \times 22 \times \overset{2.03}{\cancel{14.21}}}{\cancel{7}}$

$= 2 \times 22 \times 2.03$

$= 89.32$km [D]

6. Range = Highest – Lowest

$= 8 - 0$

$= 8$ [D]

7. Let his monthly salary be x

Least share $= \frac{r}{t.r} \times$ sum

$120 = {}^{2}/_{12} \times x$

$\frac{120}{1} = \frac{2x}{12}$

$\frac{\cancel{2}x}{\cancel{2}} = \frac{12 \times \overset{6}{\cancel{120}}}{\cancel{2}}$

$x = 12 \times 60$

x = ₦720

His monthly salary was ₦720.00

8. Area $= \frac{b \times h}{2}$

$= \frac{14 \times 6}{2}$

$= 14 \times 3$

$= 42\text{cm}^2$

9. Mean $= \frac{r}{t.r} \times$ sum

$= \frac{7 + 8 + 5 + 0 + 3 + 2 + 5}{7}$

$= {}^{30}/_{7}$

$= 4.285$

≈ 4.29 to 2d.p [C]

10. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{30 + 50 + 70}{3}$

$= {}^{150}/_{3}$

= 50 marks [E]

11. Total = 20 + 30 + 50 + 70 + 20 + 10

= 200 marks [B]

12. Area = L^2

$225 = L^2$

Take the square root of both sides

$\sqrt{225} = \sqrt{L^2}$

L = 15

∴ Perimeter = 4L

= 4 x 15

= 60m [D]

13. Profit = S.P – C.P

= 4200 – 4000

= ₦200

∴ P.P = $\frac{P}{C.P}$ x 100

$= \frac{200^{5}}{4000} \times 100$

= 5% [E]

14. Area of EFGH = L x B

= 8 x 4

= 32cm² [B]

15. $\begin{array}{r} {}^{9}\cancel{1}\,{}^{9}\cancel{0}\,{}^{9}\cancel{0}0 \\ -\ 6783 \\ \hline 3217 \end{array}$

∴ xxxx = 3217 [E]

16. 4p – 14 = 42

Collect like terms

4p = 42 + 14

4p = 56

Divide both sides by 4

$\frac{4p}{4} = \frac{56}{4}$

p = 14 [E]

17. Let the fifth number be x

Average = $\frac{\text{sum of number}}{\text{total number}}$

$17 = \frac{21 + 17 + 14 + 18 + x}{5}$

$17 = \frac{70 + x}{5}$

70 + x = 17 x 5

70 + x = 85

x = 85 – 70

x = 15 [C]

18. $\frac{a^3b^2}{a^2b^3} = \frac{\cancel{a} \times \cancel{a} \times a \times \cancel{b} \times \cancel{b}}{\cancel{a} \times \cancel{a} \times \cancel{b} \times \cancel{b} \times b}$

$= \frac{a}{b}$ [B]

19. MCMXCVI

M = 1000

CM = 900

XC = 90

VI = 6

1996

20. 5 in 5103302 is million [E]

21. His mark = 80% of 240

$= \frac{80}{100} \times 240$

$= 8 \times 24$

$= 192$ [D]

22. Adenike's share $= \frac{r}{t.r} \times$ sum

$= \frac{5}{7} \times 42^{6}$

$= 5 \times 6$

$= ₦30$ [D]

23. Girls $= \frac{7}{9} \times 990^{11}$

$= 7 \times 110$

$= 770$

$\therefore$ Boys $= 990 - 770$

$= 220$ [B]

24. Average Speed $= \frac{D}{T}$

$= 189 \div \frac{9}{2}$

$= \frac{189^{21}}{1} \times \frac{2}{9}$

$= 21 \times 2$

$= 42$km/hr [D]

25. Twenty three thousand = 23,000

Twenty-three = 23

23,023

[B]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2009)

1. Fifty-five thousand = 55,000

Sixteen = 16

55,016 [A]

2. Taxable income = 44000

- 25000

₦19,000 [D]

3. ma = 4, n = 3

(m + n)(m – n)

(4 + 3)(4 – 3)

7 x 1

= 7 [D]

4. 4 0 0

1 1 0

0 0 0

4 0 0

\+ 4 0 0

₦4 4,0 0 0 [D]

5. Let the number be x

x x 4 + 6 = 50

4x + 6 = 50

4x = 50 – 6

$\frac{4x}{4} = \frac{44}{4}$

x = 11 [A]

6. 700 shares $= \frac{50 \times 700}{100}$

$= ₦350$ [C]

7. $4^{3}0^{1}0$

4 0

3 6 0 [D]

8. Cost price $= \frac{100}{100\% + P\%} \times$ S.P

$= \frac{100}{100+25} \times 1200$

$= \frac{100}{125} \times 1200$

$= \frac{120000}{125}$

C.P = ₦960.00

9. John's share = $\frac{r}{t.r} \times$ sum

$= \frac{5}{12} \times 396$

$= \frac{5 \times 396}{12}$

$= \frac{1980}{12}$

= ₦165 [D]

10. Time = $\frac{\text{Distance}}{\text{Speed}}$

$= \frac{1440}{80}$

= 18 hours [D]

11. $50 - 10 = \frac{40}{2}$

= 20

Adamu's share = 10 + 20

= 30 oranges [A]

12. Girls : Boys

25 : 50

$\frac{25}{50} = \frac{1}{2}$

1 : 2 [A]

13. The same with QUESTIONS 10 [D]

14. 1 3 7

x 2 9

1 2 3 3

2 7 4

3 9 7 3 [B]

15. 50,769 = 50,800 to the nearest hundred.

16. Area = $\pi r^2 \div 2$

$= \frac{22}{7} \times 7 \times 7 \div \frac{2}{1}$

$= 154 \times \frac{1}{2}$

= 77cm²

17. 150 + 120 + 54 + x = 360

324 + x = 360

x = 360 – 324

$x = 36^o$ [Bonus]

18. Area = $\frac{b \times h}{2}$

$= \frac{36 \times 9}{2}$

= 18 x 9

= 162

∴ Area of shaded portion

$= \frac{162}{2}$

= 81cm²

19. ¼, $^2/_3$, ½, ¾, $^5/_8$

L.C.M = 24

$\frac{6, 16, 12, 18, 15}{24}$

Ascending order = ¼, ½, $^5/_8$, $^2/_3$, ¾ [B]

20. Tim $= \frac{S.I \times 100}{P \times R}$

$= \frac{250 \times 100}{200 \times 5}$

$= {}^{50}/_{2}$

= 25 years [Bonus]

21. Girls : Boys

25 : 50

$\frac{25}{50} = \frac{1}{2}$

= 1:2 [A]

22. Area $= \frac{(a \times b)h}{2}$

$= \frac{(12 + 18)5}{2}$

$= \frac{30 \times 5}{2}$

= 15 x 5

= 75cm² [C]

23. 6 in 8632 is Hundreds

24. A line that divides a circle into two equal parts is called a Diameter.

25. 100cm³ = 1 litre

$\therefore 4^{1}/_{4}$ litres $= {}^{17}/_{4} \times 1000$

$= \frac{17,000}{4}$

= 4,250cm³ [D]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2010)

1. Men=10,613 – [590+486+4037+2587]

= 10,613 – 7700

= 2,913

$\therefore$ There are 2,913 men [B]

2. 11 poles has 10 intervals

$\therefore$ 75 x 10

= 750cm [C]

3. Average $= \frac{\text{sum of number}}{\text{total number}}$

$= \frac{10 + 13 + 9 + 12}{4}$

$= \frac{44}{4}$

= 11 years [E]

4. A.S $= \frac{\text{Distance}}{\text{Time}}$

$= \frac{4200}{6}$

= 700km/h [C]

5. 9 in 9,756 is thousand [B]

6. Circumference = 2πr

$= 2 \times \frac{22}{7} \times 7$

= 2 x 22

= 44cm [A]

7. 20 x 108

= 2160 litres [D]

8. 10% of 7000

$\frac{10}{100}$ x 7000

= 10 x 70

= 700

∴ The new price = 7000 – 700

= ₦6,300 [C]

9. James's share = $\frac{r}{t.r}$ x sum

= $\frac{3}{10}$ x 3000

= 3 x 300

= ₦900

John's share = $\frac{r}{t.r}$ x sum

= $\frac{7}{10}$ x 3000

= 7 x 300

= ₦2,100

= ₦900 : ₦2,100 [D]

10. Mean = $\frac{\text{sum of number}}{\text{total number}}$

= $\frac{72 + 75 + 73 + 78 + 72}{5}$

= $\frac{370}{5}$

Mean = 74

Mode = 72 [D]

11. 1914

1000 = M

900 = CM

10 = X

4 = IV

∴ 1914 = MCMXIV

12. $\frac{5938}{35}$

$$
\begin{array}{r}
169.657 \\
35\overline{)5938} \\
-\ 35 \\
\hline
243 \\
-\ 210 \\
\hline
338 \\
-\ 315 \\
\hline
230 \\
-210 \\
\hline
200 \\
-\ 175 \\
\hline
250 \\
-\ 245 \\
\hline
5
\end{array}
$$

∴ $\frac{5938}{35}$ = 169.66kg to 2 places of decimal [C]

13.

2	196
2	98
7	49
7	7
	1

∴ 196 = 2 x 2 x 7 x 7 [B]

14. April 16th – May 16th = 31

May 17th – May 21st = 5

36 days

[C]

15. t – 3728 = 4589

t = 4589 + 3728

t = 8,317 [A]

16. Each get $\frac{200}{40}$

= ₦5 [Bonus]

17. 17.236

8.497

3.784

29.517kg [B]

18. $\frac{560}{10} = 56$

$\frac{560}{20} = 28$

$\frac{560}{40} = 14$

= 56, 28, 14 [B]

19. 90 + 45 + x = 180

135 + x = 180

x = 180 – 135

x = 45° [D]

20. Circle, Square, Parallelogram, Cone, Rectangle

21. A gross = 144

3 scores = 3 x 20 = 60

5 dozen = 5 x 12 = 60

∴ Sum = 144 + 60 + 60

= 264 [A]

22. One million = 1,000,000

Six thousand = 6,000

Seven = 7

1,000,007 [D]

23. 124 x 636 = 78,864 yams [B]

24. A pair of compass [A]

25. Total Income = 145 + 83

= ₦228

Total expenses = 27 + 8

= ₦35

∴ She has 228 – 35

= ₦193 left [E]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2011)

1. 9 in 982435 is 900,00 [A]

2. 7,000,005: Seven million and five [A]

3. Eight hundred and eight-eight thousand = 888,000

Eight hundred and eighty-eight = 888

888,888

4. $0.75 = \frac{75}{100}$

$= {}^{3}/_{4}$ [D]

5. $\frac{3}{4}$ x 100

= 3 x 25

= 75% [B]

6. 8.0

- 2.9

5.1 [C]

7. 7 . 2
8 . 4
9 . 6
2 . 7
27 . 9 [A]

8.

3	9	18	27
3	3	6	9
	1	2	3

∴ H.C.F = 3 x 3
= 9 [E]

9. 9.549 = 9.5 to 1d.p [C]

10. 400 = CD [A]

11. 8 7 2 9 6
5 1 7 2 7
1 3 9,0 2 3 [E]

12. $1^1/_2 + 1^1/_3$
$\frac{3}{2} + \frac{4}{3}$
L.C.M = 6
$\frac{9 + 8}{6}$
$= {}^{17}/_6$
$= 2^5/_6$ [Bonus]

13. $2^1/_2 + 1^1/_4$
$\frac{5}{2} + \frac{5}{4}$
L.C.M = 4
$\frac{10 + 5}{4}$
$= {}^{15}/_4$
$= 3^3/_4$ [E]

14. $6^1/_2 - 3^1/_4$
$\frac{13}{2} - \frac{13}{4}$
L.C.M = 4
$= \frac{26-13}{4}$
$= \frac{13}{4}$
$= 3^1/_4$ [C]

15. Profit = S.P – C.P
= 210 – 150
= ₦60 [B]

16. S.I = $\frac{P \times R \times T}{100}$
$= \frac{200 \times 4 \times 2}{100}$
= 2 x 4 x 2
= ₦16.00 [A]

17. Area = $\frac{b \times h}{2}$
$= \frac{6 \times 5}{2}$
= 3 x 5
= 15cm² [B]

18. 5kg : 400g
2kg : 637g
2kg : 763g [C]

19. 1kg = 1000g
$\therefore \frac{600}{1000} = \frac{6}{10}$
$= \frac{3}{5}$ [B]

20. A diameter divides a circle into 2 equal parts called semi-circle [D]

21. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{14 + 17 + 18 + 15}{4}$

$= \frac{64}{4}$

= 16cm [E]

22. 875 [A]

23. 8 + 2 + 7 + 1 = 18 [D]

24. 10% of 200

$\frac{10}{100} \times 200$

= 10 x 2

= ₦20 [D]

25. 23, (24), 25, (26), 27, (28), 29

= 24 + 26 + 28

= 78 [C]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2012)

1. 9 in 29482 is 9000 [C]

2. 5 x 25 = ₦125.00 [B]

3. $\sqrt{49} = 7$ [A]

4. LXXIX

LXX = 70

IX = 9

79 [B]

5. One thousand = 1000

Five hundred = 500

Forty-six = 46

1,546 [D]

6. $\frac{64}{5} = 12\frac{4}{5}$ [A]

7. 1000g = 1kg

∴ 23kg = 23 x 1000

= 23,000 grams [D]

8. Profit = S.P – C.P

= 4500 – 3485.75

= 4500.00

3485.75

1014.25 [Bonus]

9. 213

7

1491 [D]

10. 8125

-5645

2480 [A]

11. 142

92

+ 86

320 [C]

12. 9.40

+7.52

16.920

- 1.045

15.875 [A]

13. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{14 + 18 + 22}{3}$

$= \frac{54}{3}$

$= 18$ [B]

14. 20% of 120

$\frac{20}{100} \times 120$

$= 2 \times 12$

$= 24$ [D]

15. $\frac{30}{16} = \frac{q}{48}$

Cross multiply

$16 \times q = 30 \times 48$

$q = \frac{\overset{15}{\cancel{30}} \times \cancel{48}^{6}}{\cancel{16}_{\cancel{8}_{1}}}$

$= 15 \times 6$

$= 90$ [C]

16. One orange = $\frac{18}{6}$

$= ₦3$

$\therefore$ 3 oranges = 3×3

$= ₦9$ [B]

17.
$$\begin{array}{r} 3.7500 \\ +\ 2.0001 \\ \hline 5.7501 \end{array}$$

$$\begin{array}{r} \cancel{6}.\cancel{3}009 \\ -\ 5.\overset{12}{7}\overset{1}{5}01 \\ \hline 0.5508 \end{array}$$

[Bonus]

18.
$$\begin{array}{r} 38 \\ \times\ 18 \\ \hline 304 \\ +\ 38 \\ \hline 684 \end{array}$$

19.
$$\begin{array}{r} 49.5 \\ \times\ 0.5 \\ \hline 2475 \\ +\ 000 \\ \hline 24.75 \end{array}$$

[A]

20.
$$\begin{array}{r} 0.465 \\ 8.145 \\ 0.340 \\ 0.080 \\ \hline 9.030 \end{array}$$

[B]

21.
$$\begin{array}{r} 2386 \\ +\ 7777 \\ \hline 10163 \\ -\ 8247 \\ \hline 1916 \end{array}$$

[C]

22. $\frac{7}{18} + \frac{5}{6} + \frac{2}{3}$

L.C.M = 18

$\frac{7 + 15 + 12}{18}$

$= \frac{\cancel{34}^{17}}{\cancel{18}_{9}}$

$= 17$

$= 1^{8}/_{9}$ [C]

23. $p + 2q = 40$

$16 + 2q = 40$

Collect like terms

$2q = 40 - 16$

$\frac{2q}{2} = \frac{24}{2}$

q = 12 [C]

24. Area = L x b

= 12 x 8

= 96m² [C]

However

Area of four wall = 2h(L + b)

= 2(10)(12 + 8)

= 20 x 20

= 400m²

25. 45% of 1.50

$\frac{45}{\cancel{100}_{2}} \times \cancel{150}^{3}$

$= \frac{\cancel{135}^{67}}{\cancel{2}}$

$= 67\frac{1}{2}k$ [C]

26. 100k = ₦1

∴ 717k = $\frac{717}{100}$

= ₦7.17k [A]

27. 26 – k = 12

26 – 12 = k

k = 14 [C]

28.
$$\begin{array}{r} 27 \\ \times\ 12 \\ \hline 54 \\ 27 \\ \hline 324 \end{array}$$
[D]

29. 402 + x = 782

x = 782 – 402

x = 380 [C]

30. 7 days = 1 week

∴ 2 weeks = 2 x 7

= 14 days [C]

31. 2 + 8 + x = 20

10 + x = 20

x = 20 – 10

x = 10 [D]

32.

2	18	220
	9	10

∴ H.C.F = 2 [A]

33. |Hyp| = $\sqrt{(opp)^2 + (adj)^2}$

$= \sqrt{(12)^2 + (5)^2}$

$= \sqrt{144 + 25}$

$= \sqrt{169}$

= 13cm [A]

34. Ade's share = $\frac{r}{t.r}$ x sum

$= \frac{5}{8}$ x 3200

= 5 x 400

= ₦2000 [C]

35. Distance = Speed x Time

$= 60 \times \frac{3}{2}$

= 30 x 3

= 90km [C]

36. $\frac{3}{4}\left[\frac{1}{3} \div \frac{1}{2}\right]$

$\frac{3}{4}\left[\frac{1}{3} \times \frac{2}{1}\right]$

$= \frac{3}{4} \times \frac{2}{3}$

$= \frac{1}{2}$ [C]

37. Mean = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{2 + 4 + 6 + 8}{4}$

$= \frac{120}{4}$

$= 5$ [C]

38. Let the number be x

$5 + x = 20$

Collect like terms

$x = 20 - 5$

$x = 15$ [C]

39. Perimeter = 4L

$= 4 \times 6$

$= 24cm$ [B]

40. $\frac{3}{4} \times \left[\frac{1}{12} \div \frac{1}{3}\right]$

$\frac{3}{4} \times \left[\frac{1}{12} \times \frac{3}{1}\right]$

$= \frac{3}{4} \times \frac{3}{12}$

$= \frac{3}{4} \times \frac{1}{4}$

$= \frac{3}{16}$ [A]

41. $\frac{130 \times 35}{100}$

$= \frac{4550}{100}$

$= ₦45.50$ [C]

42. 4, 5, |6,|7, 10

Median = 6 [C]

43.

2	8	20
2	4	10
2	2	5
5	1	5
	1	5

$\therefore$ L.C.M = 2 x 2 x 2 x 5

= 40 [C]

44. $(17)^2 = 17 \times 17$

= 289 [B]

45. $2x + 5 = 13$

$2x = 13 - 5$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$ [B]

46. $2x + 5x - 10x$

$7x - 10x$

$= -3x$ [D]

47.

$$\begin{array}{r} 3\,.\,7 \\ \underline{2\,.\,2} \\ 7\quad 4 \\ \hline 7\quad 4 \\ \hline 8\,.\,1\quad 4 \end{array}$$

[D]

48. Time = $\frac{\text{Distance}}{\text{Speed}}$

$= \frac{100}{50}$

= 2hrs [C]

49. Loss = C.P – S.P

= 70,000 – 60,000

= ₦10,000 [C]

50. 2 5 8 5

1 5 7 5

1 0 1 0 [C]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2013)

1. Let the number be x

x x 3 = 138

$\frac{3x}{3} = \frac{138}{3}$

x = 46 [A]

2. 36 – 5 = 31 [C]

3. P x P = 144

$P^2 = 144$

Take the square root of both sides

$\sqrt{P^2} = \sqrt{144}$

P = 12 [Bonus]

4. $\frac{2}{1000}$ = 0.002 [A]

5. 1 dozen = 12

∴ 1 pen = $\frac{40.80}{12}$

1 pen = ₦3.40k

∴ 10 pens = 10 x 3.40

= ₦34.00 [B]

6. Diameter = 2 x r

= 2 x 7

= 14cm [D]

7. 9 8 7

x 4 0 0

0 0 0

0 0 0

3 9 4 8

3 9 4,8 0 0 [B]

8. Amount = Principal + Interest

$= 1000 + \left[\frac{10\cancel{0}\cancel{0} \times \cancel{22} \times 27/\cancel{2}}{1\cancel{0}\cancel{0}}\right]$

= 1000 + [10 x 11 x 27]

= 1000 + 2970

= ₦3,750 [Bonus]

9. August, September, October [D]

10. 4, 8, 12, 16, 20, 24, … [C]

11. 20% of 720

$\frac{2\cancel{0}}{1\cancel{0}\cancel{0}}$ x 72$\cancel{0}$

= 2 x 72

= 144

∴ Increase = 720 + 144

= 864 [C]

12. $\frac{7}{2\cancel{0}}$ x $\overset{5}{\cancel{10}}\cancel{0}$

= 7 x 5

= 35% [A]

13. 0.48 x 100

= 48% [D]

14. Area = L x b

= 14 x 8

= 112cm² [C]

15. y + 3,072 + 59 = 5,217

y + 3,131 = 5,217

y = 5217 – 3131

y = 2,086 [C]

16. C.P = ₦80

S.P = 10 x 10

= ₦100

Profit = S.P – C.P

= 100 – 80

= 20

∴ P.P = $\frac{P}{C.P} \times \frac{100}{1}$

= $\frac{20}{80} \times \frac{100}{1}$

= $\frac{200}{8}$

= 25% profit [B]

17. Distance = Speed x Time

= 300 x 3

= 900km [D]

18. ₦500.00 [B]

19. Monday – Friday = 5 days

∴ He uses = $\frac{60}{5}$

= 12 litres [C]

20. 1 2 0 0

- 8 0 0

₦ 4 0 0 [C]

21. Seven thousand = 7000

Sixty = 60

7060 [B]

22. 2 + 8 + x = 20

10 + x = 20

x = 20 – 10

x = 10 [D]

23. 2 days = 2 x 7

= 14 days [C]

24. $\frac{3}{5} - \frac{1}{3}$

L.C.M = 15

= $\frac{9 - 5}{15}$

= $\frac{4}{15}$ [C]

25. 8 in 185 is 80 [A]

26. 402 + x = 782

x = 782 – 402

x = 380 [C]

27.

	2	7
	1	2
5	5	
2	7	
3	2	4

[D]

28. $\sqrt{81}$ = 9 [B]

29. $1\ \cancel{5}^{4}\ {}^{1}6$

$-\ 1\ \ 2\ \ 7$

$2\ \ 9$ [Bonus]

30. 30, 45, 60, 75, 90, 105 [C]

31. 625

600 = DC

25 = XXV

625 = DCXXV

32. $\frac{240}{360} = \frac{2}{3}$ [C]

33. $22^{1}/_{2} = \frac{22 \times 2 + 1}{2}$

$= \frac{45}{2}$ [D]

34.

	2	4	5
		1	5
1	2	2	5
2	4	5	
3	5	7	5

[C]

35.

5 . 2 8

1 0 . 0 5

8 . 6 3

2 3 . 9 6

36.

2	36	48	12
2	18	24	6
3	9	12	3
	3	4	1

∴ H.C.F = 2 x 2 x 3

= 12 [C]

37. $2 \times 3 \times 5^2$

= 6 x 25

= 150 [C]

38.

2	18	24
2	9	12
2	9	6
3	9	3
3	3	1
	1	1

∴ L.C.M = 2 x 2 x 2 x 3 x 3

= 72 [B]

39. Bola's share = $\frac{r}{t.r}$ x sum

$= \frac{2}{\cancel{5}} \times \cancel{4500}^{9}$

= 2 x 900

= ₦1,800 [A]

40.

2	72
2	36
2	18
3	9
3	3
	1

∴ 72 = 2 x 2 x 2 x 3 x 3

$= 2^3 \times 2^2$ [B]

41. $11^2 = 11 \times 11$

= 121 [D]

42.

2 . 3 0 5

+1 . 0 4 6

3 . 3 5 1 [D]

43. $\frac{1}{5}$ =

$$5 \overline{)1\,0}$$ quotient 0.2

- 1 0

0 0

$\therefore$ $^1/_5$ = 0.2 [B]

44. $1^1/_4 - {}^1/_2$

$^5/_4 - {}^1/_2$

L.C.M = 4

$\frac{5-2}{4}$

= $^3/_4$ [D]

45. Let his initial money be x

x – 80 = 30

x = 30 + 80

x = ₦110 [D]

46. Let his initial money be x

Fraction lect = 1 – $^1/_3$

= $^2/_3$

$\therefore \frac{2}{3}$ x x = 150

$\frac{2x}{3} = \frac{150}{1}$

$\frac{2x}{2} = \frac{450}{2}$

x = ₦225 [Bonus]

47. 3, 4, 5, 6, 5, 4, 5

The most occurring number is 5

[C]

48. 101.2 = 101 to the nearest whole Number [B]

49. 100cm = 1m

$\therefore$ 4m = 4 x 100

= 400cm [D]

50. 8 + k = 15

k = 15 – 8

k = 7 [B]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2014)

1. 6 in 264345 is sixty thousand [D]

2. Since the difference between the divisor and the remainder is 1, find the L.C.M and subtract 1 from the answer

2	18	20	24
2	9	10	12
2	9	5	6
3	3	5	3
5	1	5	1
	1	1	1

L.C.M = 2 x 2 x 2 x 3 x 5

= 360 – 1

= 359 [A]

3. Male = 4,678,020

Female = 4,335, 514

8 is 8 0 0 0

1 is 1 0

7 9 9 0 [A]

4. Product of two number = Product of their HCF and LCM

Let one number be x

$30 \times x = 150 \times 5$

$\frac{30x}{30} = \frac{150 \times 5}{30}$

$x = 5 \times 5$

$x = 25$ [A]

5. Let the sum of the numbers be x

Larger number = $\frac{r}{t.r} \times$ sum

$96 = \frac{8}{11} \times x$

$\frac{96}{1} = \frac{8x}{11}$

$\frac{8x}{8} = \frac{1056}{8}$ (132)

$x = 132$

∴ The sum of the number is 132

[B]

6. Least share = $\frac{r}{t.r} \times$ sum

$= \frac{2}{12} \times 7{,}200{,}000$ (6)

$= 2 \times 600{,}000$

$= 1{,}200{,}000$

$= 1.2$ million [D]

7. Ekiti : Osun

52000 : 42000

$\frac{52}{2} : \frac{42}{2}$ (26, 21)

= 26 : 21

8. Increase = 4000 – 2500

= 1500

∴ P.I = $\frac{I}{A.V} \times 100$

$= \frac{1500}{2500} \times \frac{100}{1}$ (5)

$= \frac{300}{5}$

= 60% [B]

9. S.I $= \frac{P \times R \times T}{100}$

$= \frac{18{,}000 \times \frac{15}{8} \times \frac{8}{12}}{100}$ (4, 1, 3)

$= 180 \times \frac{15}{3}$ (5)

$= 180 \times 5$

= ₦900 [Bonus]

10. S.I $= \frac{P \times R \times T}{100}$

$= \frac{1200 \times 5 \times 219}{100}$

$= 12 \times 5 \times 219$

= ₦13,140

Since 365 days = 1 year

∴ $\frac{13{,}140}{365}$

= ₦36 [C]

11. Eight hundred and fifteen

Thousand	= 815,000
Two hundred	= 200
Seventy-five	= 75
	815,275 [A]

12. (119 x 8) – (119 x 7)

952 – 833

= 119 [B]

13.

3	6	15	12
	2	5	4

$\therefore$ H.C.F = 3 [D]

14. Let the total chicken be x

The first farmer= $\frac{r}{t.r}$ x sum

$36 = \frac{3}{7} \times x$

$\frac{36}{1} = \frac{3x}{7}$

$\frac{3x}{3} = \frac{36 \times 7}{3}$

$x = 12 \times 7$

x = 84 chickens [C]

15. 1000kg = 1 ton

$\therefore$ 1.2 tonnes = 1000 x 1.2

= 1200kg [A]

16. $2^3 \times 3^2 = 2 \times 2 \times 2 \times 3 \times 3$

= 72 [B]

17. Boys share = $\frac{r}{t.r}$ x sum

$= \frac{3}{\not{8}} \times \overset{1}{\not{8}0}$

= 3 x 10

= ₦30

Girls share = $\frac{r}{t.r}$ x sum

$= \frac{5}{\not{8}} \times \overset{1}{\not{8}0}$

= 5 x 10

= ₦50

Boys = ₦30, girls = ₦50 [A]

Food	Rice	Beans	Yam	Dodo	Potato
No of Children	25	7	11	19	13

18. 25 + 7 + 11 + 19 + 13

= 75 [C]

19. Let the distance between Lakin and Labule be xcm

75cm : 1cm = 15km : xcm

$\frac{75}{1} = \frac{15}{x}$

Cross multiply

75 x x = 1 x 15

$\frac{75x}{75} = \frac{15}{75}$

$x = \frac{1}{5}$ [D]

20. 15 week weight = 140 x 15

= 2,100 grammes

$\therefore$ After 15 weeks = 3,450 + 2100

= 5,550 grammes

[B]

21. $\frac{1846}{13}$

```
      1 4 2
13 | 1 8 4 6
    -1 3
       5 4
     - 5 2
        2 6
      - 2 6
        0 0
```

$\therefore \frac{1846}{13} = 142$ [D]

22. $\frac{3}{7} \times \frac{1}{2} - \frac{1}{4} \times \frac{7}{9}$

$\frac{3}{14} - \frac{7}{36}$

L.C.M = 252

$\frac{54 - 49}{252}$

$= \frac{5}{252}$ [B]

23. Let x be the total population in the village.

Children = $\frac{r}{t.r} \times$ sum

$150 = \frac{1}{4} \times x$

$\frac{150}{1} = \frac{x}{4}$

x = 4 x 150

x = 600

$\therefore$ Number of families = 600 – 150

= 450 families [Bonus]

24. 850g : $\frac{5}{2} \times 1000$

850g : 2,500g

$\frac{850}{2500} = \frac{17}{50}$

= 17 : 50 [Bonus]

25. Area = L x B

= 110.6 x 49.2

= 5,441.5m² [D]

26. 9 is not a prime number because it has more than one factor. [C]

27. Mon 6:30am –Tues 6:30am =24hrs

Tues6:30am – Wed 6:30am=24hrs

Weds 6:30am–11:00am= 4.30mins

52.30mins

= 52 hours 30 mins [Bonus]

28. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{5 + 6 + 8 + 5}{4}$

$= \frac{24}{4}$

= 6 [B]

29.

	3	4	7	
	2	6	5	
	1	3	3	
+	1	0	0	5
	1	7	5	0

[B]

30. Boys and Girls

= 5,963 – [2780 + 1946]

= 5,963 – 4,726

= 1,237 [C]

31. 1625 x 578 = 939,250 [D]

32. $4^1/_2 - 2^3/_5$

$\frac{9}{2} - \frac{13}{5}$

L.C.M = 10

$\frac{45 - 26}{10}$

$= \frac{19}{10}$

$= 1^{9}/_{10}$ [C]

33. Volume = L x b x h

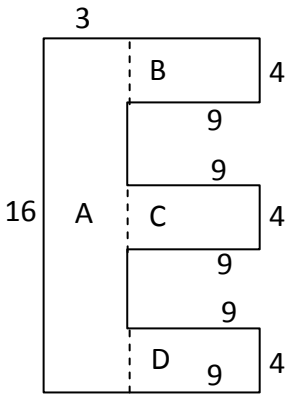
= 15 x 20 x 30

= 9000cm³

1000cm³ = 1 litre

$\therefore \frac{9000}{1000}$

= 9 litres [A]

34. 

Area of A = L x b

= 16 x 3

= 48

Area of B = L x b

= 9 x 4

= 36

Area of C = L x b

= 9 x 4

= 36

Area of D = L x b

= 3 x 4

= 36

$\therefore$ Total Area = 48 + 36 + 36 + 36

= 156cm² [D]

35. Volume = L x b x h

= 16 x 12 x 20.3

= 3897.6cm³

36. Let the kilometers it covers be x

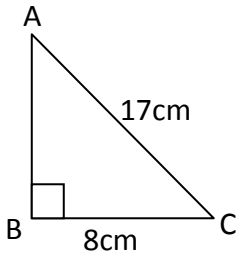
12km : 1 Litr = x : 72Litrs

$\frac{12}{1} = \frac{x}{72}$

Cross multiply

x x 1 = 12 x 72

x = 864km [B]

37. 

opp $= \sqrt{(hyp)^2 - (adj)^2}$

$= \sqrt{(17)^2 - (8)^2}$

$= \sqrt{289 - 64}$

$= \sqrt{225}$

AB = 15cm [A]

38. Volume = L x b x h

= 80 x 95 x 72.4

= 550,240cm³

1000cm³ = 1 Litre

$\therefore \frac{550240}{1000}$

= 550.240 litres [C]

39. 60 mins = 1 hour

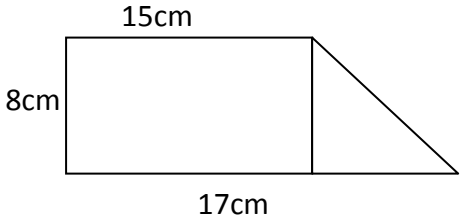
$\therefore$ 4 hours = 4 x 60

= 240 mins

$\therefore$ 4 hours 55mins = 240 + 55

= 295 mins [D]

40. There are 117 days from 21st January to 16th May 2012. [A]

41. 

Area $= \frac{(a + b)h}{2}$

$= \frac{(17 + 15)}{2} \times 8$

$= 32 \times 4$

$= 128cm^2$ [D]

42. Runner B

43. $\frac{1}{6}b - 4 = 3$

$\frac{b}{6} = 3 + 4$

$\frac{b}{6} = \frac{7}{1}$

Cross multiply

$b \times 1 = 6 \times 7$

$b = 42$ [C]

44. Circumference $= 2\pi r$

$= 2 \times \frac{22}{7} \times 63^{9}$

$= 2 \times 22 \times 9$

$= 396cm$ [B]

45. Two opposite sides are equal. [D]

46. The sum of angles at a point is equal to 360^o [B]

47. 1, 2, 2, 3, |3,|4, 5, 6, 7

Median = 3 [A]

48. 2010 and 2012 [D]

49. Mean $= \frac{\text{sum of number}}{\text{total number}}$

$= \frac{25 + 27 + 31 + 29 + 25 + 27 + 25}{7}$

$= \frac{189}{7}$

$= 27$ [D]

50. 25, 27, 29, 25, 26, 30, 25

Mode = 25 [A]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2015)

1. $7\frac{9}{10} = \frac{79}{10}$

$= 7.9$ [B]

2. $1^3/_8 + 2^3/_4$

$= \frac{11}{8} + \frac{11}{4}$

L.C.M = 8

$\frac{11 + 22}{8}$

$= \frac{33}{8}$

$= 4^1/_8$ [A]

3. Mary's share $= \frac{r}{t.r} \times \text{sum}$

$= \frac{3}{8} \times 1^{1}\cancel{20}^{5}\cancel{0}$

$= 3 \times 150$

$= ₦450$ [D]

4. MCIX – CMXI

1109 – 991

198

198 = CXCVIII [C]

6. Two billion = 2,000,000,000

One hundred and eighty-six million = 186,000,000

Four hundred and seventy one thousand = 471,000

Five hundred and thirty-two = 532

2,186,471,532

6. $9 : 27 = \frac{9}{27}$

$= \frac{1}{3}$

$= 1 : 3$ [B]

7. $8^{3}/_{6} = \frac{(6 \times 8) + 3}{6}$

$= \frac{48 + 3}{6}$

$= \frac{51}{6}$ [A]

8. 30% failed

∴ 30% of 50

$= \frac{30}{100} \times 50$

$= 3 \times 5$

= 15 pupils [C]

9. 645 = 600 to the nearest hundred [A]

10.

2	42	96
2	21	48
2	21	24
2	21	12
2	21	6
3	21	3
7	7	1
	1	1

∴ L.C.M = 2 x 2 x 2 x 2 x 2 x 3 x 7

= 672 [B]

11. 1 day = (30 x 15) men

∴ 10 days $= \frac{30 \times 15}{10}$

$= 3 \times 15$

= 45 men [A]

12. $\frac{x}{5} = \frac{2}{3}$

Cross multiply

$3 \times x = 15 \times 2$

$\frac{3x}{3} = \frac{30}{3}$

$x = 10$ [A]

13. $\frac{\cancel{196}}{\cancel{256}} = \frac{49}{64}$ [B]

14. $\sqrt{169}$ = 13cm [D]

15. $\frac{100}{3} = 33^{1}/_{3}$ [C]

16. 1628 – 520 + 809

= 1108 + 809

= 1917 [B]

17. (18.68 + 19.53) – 24.55

= 38.21 – 24.55

= 13.66 [B]

18. Biggest share = $\frac{r}{t.r}$ x sum

$= \frac{\cancel{9}^{3}}{\cancel{18}_{6}} \times \cancel{60}^{\cancel{6}^{3}}$

= 3 x 10

= ₦30

Second share = $\frac{r}{t.r}$ x sum

$= \frac{\cancel{6}}{\cancel{18}_{3}} \times 60$

$= \frac{60}{3}$

= ₦20

Third share = $\frac{r}{t.r}$ x sum

$= \frac{\cancel{3}}{\cancel{18}_{6}} \times \cancel{60}^{\cancel{6}^{1}}$

= 1 x 10

= ₦10

Amount each gets = ₦30, ₦20, ₦10 [C]

19. 1 score = 20

1 dozen = 12

Four scores = 20 x 4

= 80

3 dozen = 3 x 12

= 36

1 plate = 50k

80 plates = 50 x 80

= 4000k

1 spoon = 20k

36 spoons = 20 x 36

= 720k

= (4000 + 720)k

$= \frac{4720}{100}$k

= ₦47.20k [A]

20. Rate = $\frac{\text{Money}}{\text{Share}}$

$= \frac{2500}{500}$

= ₦5 per share [A]

21. Loss = 6000 – 4800

= ₦1,200

Loss % = $\frac{\text{Loss}}{\text{C.P}} \times \frac{100}{1}$

$= \frac{\cancel{1200}^{2}}{\cancel{6000}} \times \frac{\cancel{100}}{1}$

= 2 x 10

= 20% [C]

22. 10 + 5 = 15

Fraction = $\frac{15}{60}$

$= \frac{1}{4}$ [C]

23. $6^2 + 2^4$

36 + 16

= 52 [C]

24. 15.218 x 6

= 91.308

= 91.31 to 2 d.p [D]

25. $101_2 = 1 \times 2^2 + 0 \times 2^1 + 1 \times 2^0$

= 1 x 4 + 0 x 2 + 1 x 1

= 4 + 0 + 1

= 5 [B]

26. 13_{ten}

2	13
2	6 R 1
2	3 R 0
2	1 R 1
	0 R 1

$13_{ten} = 1101_2$ [A]

27. $111_{two} = 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$

= 1 x 4 + 1 x 2 + 1 x 1

= 4 + 2 + 1

= 7 [C]

28. $2^1/_4 + 1^1/_3 + {}^5/_6$

$\frac{9}{4} + \frac{4}{3} + \frac{5}{6}$

L.C.M = 12

$\frac{27 + 16 + 10}{12}$

$= \frac{53}{12}$

$= 4^5/_{12}$ [B]

29. 18kl 750l

6kl 806l

11kl 944l [C]

30. $3 - [1^1/_2 \times {}^2/_3]$

$3 - [{}^3/_2 \times {}^2/_3]$

= 3 – 1

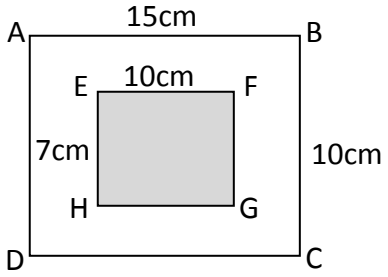
= 2 [B]

31. xxx = 626

- 323

303 [C]

32.



Area of ABCD = L x b

= 15 x 10

= 150cm²

Area of EFGH = L x b

= 10 x 7

= 70cm²

∴ Area of unshaded = 150 – 70

= 80cm²

33. Average = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{45 + 42 + 40 + 36 + 37}{5}$

$= \frac{200}{5}$

= 40kg [B]

34. ₦1 = 25k

₦880 = (880 x 25)k

= 22000k

100k = ₦1

∴ 22000k $= \frac{22000}{100}$

= ₦220 [C]

35. opp $= \sqrt{(hyp)^2 - (adj)^2}$

$= \sqrt{(13)^2 - (5)^2}$

$= \sqrt{169 - 25}$

$= \sqrt{144}$

= 12cm [C]

36. Area $= \frac{(a + b)h}{2}$

$= \frac{(6 + 8)}{2} \times 3$

$= \frac{14}{2} \times 3$

= 7 x 3

= 21cm² [C]

37. S.I $= \frac{P \times R \times T}{100}$

$= \frac{200 \times 2 \times 1}{100}$

= 2 x 2 x 1

= ₦4 [B]

38. Let the number of months be x

1 month = ₦50

x month = $\frac{450}{50}$

= 9 months

39. 1000kg = 1 tonne

0.8tonne = 0.8 x 1000

= 800kg [C]

40. C.C $= 2\pi r$

$= 2 \times \frac{22}{7} \times \frac{7}{2}$

= 22cm [D]

41. Average speed = $\frac{\text{Distance}}{\text{Time}}$

$= \frac{280}{4}$

= 70km/hr [C]

42. T = $\frac{\text{Distance}}{\text{Speed}}$

$= \frac{72}{48}$

$= \frac{3}{2}$

= $1^1/_2$ or 1hr 30 mins [B]

43. 3, 2, 8, 5, 7, 12, 9, 8

Mode = 8 [B]

44. Mean = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{22 + 25 + 23 + 22}{4}$

$= \frac{92}{4}$

= 23 [C]

45. Mean = $\frac{\text{sum of number}}{\text{total number}}$

$= \frac{30+35+60+46+29+50+30+40}{8}$

$= \frac{320}{8}$

= 40 [D]

46. 4b + 6 = 26

4b = 26 – 6

$\frac{4b}{4} = \frac{20}{4}$

b = 5 [D]

47. $\frac{5x}{2} = \frac{10}{1}$

Cross multiply

5*x* x 1 = 2 x 10

$\frac{5}{5}x = \frac{20}{5}$

$x = 4$ [A]

48. $(x + y + z)^2$

$(5 + 4 + 2)^2$

$= (11)^2$

$= 121$ [D]

49. $13 = 4r$

Divide both sides by 4

$\frac{13}{4} = \frac{4r}{4}$

$r = 3\frac{1}{4}$ [D]

50. Let x be added

$x + 2167 = 4000$

$x = 4000 - 2167$

$x = 1,833$ [B]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2016)

1. Ten thousand = 10,000

One hundred = 100

Eight = 8

10,108 [A]

2. Twenty thousand = 20,000

Eight hundred = 800

Seven = 7

20,807 [D]

3. $2^2 \times 3^2 \times 5^2$

$4 \times 9 \times 25$

$= 900$ [C]

4. $\frac{10}{100} = 0.01$ [B]

5.
$$\begin{array}{r} 1\,1\,2\,.\,4\,5 \\ 3\,6\,.\,5\,2 \\ 4\,4\,.\,2\,0 \\ \hline 1\,9\,3\,.\,1\,7 \end{array}$$
[A]

6.

2	25
2	12 R 1
2	6 R 0
2	3 R 0
2	1 R 1
	0 R 1

$\therefore 25_{10} = 11001_{two}$ [D]

7. 10% of ₦200

$= \frac{10}{100} \times 200$

$= 10 \times 2$

$=$ ₦20% [C]

8. 20% of ₦2500

$\frac{20}{100} \times 250$

$= 2 \times 250$

Discount = ₦500

New price = 2500 – 500

= ₦2,000 [C]

9. 0.05, 1.50, 0.025, 2.05, 1.25

$\frac{5}{100}, \frac{150}{100}, \frac{25}{1000}, \frac{205}{100}, \frac{125}{100}$

L.C.M = 1000

$\frac{50, 1500, 25, 2050, 1250}{1000}$

In ascending order =

0.025, 0.05, 1.25, 1.50, 20.5 [B]

10.

2	6	12	24
2	3	6	12
2	3	3	6
3	3	3	3
	1	1	1

∴ L.C.M = 2 x 2 x 2 x 3

= 24 [B]

11. x + 67 + 75 = 180

x + 142 = 180

collect like terms

x = 180 – 142

x = 138 [D]

12. 1 bucket = 9.450

7 buckets = 7 x 9.450

= 66.160 litres [C]

13. 3924

3000 = MMM

900 = CM

20 = XX

4 = IV

3924 = MMMCMXXIV [B]

14. 9 is not a prime number. [A]

15. $\frac{1}{2}, \frac{2}{5}, \frac{5}{8}, \frac{7}{10}$

L.C.M = 40

$\frac{20, 16, 25, 28}{40}$

In descending order: $\frac{7}{10}, \frac{5}{8}, \frac{1}{2}, \frac{2}{5}$

[C]

16. 726 = 700 to the nearest hundred

[D]

17. 8 in 581,043 is Eighty thousand [A]

18. 8.55am – 11.20am

= 2hrs 25 mins

= 120 + 25

= 145 mins [B]

19. 30% of ₦300

$\frac{30}{100}$ x 300

= 30 x 3

= 90

∴ Increase = 300 + 90

= ₦390 [B]

20. $6^2 \times 5^2$

36 x 25

= 900 [B]

21.
$$\begin{array}{r} 8\,7\,2\,9\,7 \\ +\ 5\,1\,7\,2\,7 \\ \hline 1\,3\,9\,0\,2\,4 \end{array}$$
[C]

22. A = L x B

= 10 x 5

= $50cm^2$ [B]

23. $^1/_3, ^4/_5, ^1/_2, ^9/_{30}$

L.C.M = 30

$\frac{10, 24, 15, 19}{30}$

Biggest fraction = $\frac{4}{5}$ [B]

24. 72738 = 73000 to the nearest thousand [D]

25. Percentage Absent = $\frac{\text{Absent}}{\text{T.P}}$ x 100

$= \frac{28}{560} \times \frac{100}{1}$

$= 5\%$ [D]

26. Cone, Parallelogram, Cylinder, Cuboid [C]

27. $\frac{1}{2} \times \frac{1}{8} \div \frac{1}{24}$

$= \frac{1}{2} \times \frac{1}{8} \times \frac{24}{1}$

$= \frac{3}{2}$ [B]

28. ₦1 = 35k

₦18,000 = (35 x 18000)k

= 630,000k

100k = ₦1

$\therefore$ 630,000k = $\frac{630,000}{100}$

= ₦6,300 [D]

29. Hypothenus [B]

30. 1 bag = ₦280

168 bogs = (280 x 168)

= ₦47,040 [B]

31. $^4/_5 = {}^x/_{30}$

Cross multiply

5 x x = 4 x 30

$\frac{5x}{5} = \frac{4 \times 30}{5}$

x = 4 x 6

x = 24 [A]

32.

2	48
2	24
2	12
2	6
3	3
	1

$\therefore$ 48 = 2 x 2 x 2 x 2 x 3 [D]

33. CMLXXIX

CM = 900

LXX = 70

IX = 9

979 [C]

34. 8 and 27 are not perfect squares [A & B]

35. 3c + 6 = 18

Collect like terms

3c = 18 – 6

3c = 12

Divide both sides by 3

$\frac{3c}{3} = \frac{12}{3}$

c = 4 [D]

36. 1hrs = $\frac{180}{6}$

= 30km

$\therefore$ 8hrs = 8 x 30

= 240km [C]

37. $69 + x = 137$

Collect like terms

$x = 137 - 69$

$x = 68$ [D]

38. Bad ones = 80% of 120

$= \frac{80}{100} \times 120$

$= 8 \times 12$

$= 96$ [B]

39.
$$\begin{array}{r} 26.3 \\ 9.4 \\ \hline 1052 \\ 2367 \\ \hline 247.22 \end{array}$$
[A]

40. $1 - \left[\frac{1}{2} + \frac{1}{3}\right]$

$= 1 - \left[\frac{3+2}{6}\right]$

$= \frac{1}{1} - \frac{5}{6}$

L.C.M = 6

$\frac{6-5}{6}$

$= \frac{1}{6}$ [A]

41. $8 + 2 + 7 + 1$

$= 18$ [B]

42. John's share = $\frac{r}{t.r} \times$ sum

$= \frac{\cancel{5}}{\cancel{15}_{\cancel{3}}} \times \cancel{90}^{3}000$

$= \cancel{₦}30,000$ [D]

43. Area = $\frac{(a + b)h}{2}$ [A]

44. $x + 112 = 180$

$x = 180 - 112$

$x = 68^{o}$ [C]

45. 1 week = 7 days

$\therefore$ 17 weeks = 7 x 17

= 119 days [B]

46. Area = L x B

$189 = 9 \times B$

$\frac{189}{9} = \frac{9B}{9}$

B = 21 [C]

47.
$$\begin{array}{r} 03.845 \\ 01.300 \\ 00.920 \\ 06.420 \\ 28.000 \\ \hline 40.485 \end{array}$$
[C]

48.

2	196
2	98
7	49
7	7
	1

$\therefore 196 = 2 \times 2 \times 7 \times 7$

$= 2^2 \times 7^2$ [C]

49. $10 \times (8 - 3) \times 2$

$10 \times 5 \times 2$

$= 100$ [B]

50. Complimentary [B]

STATE COMMON ENTRANCE EXAMINATION ANSWERS (2017)

1. Three million = 3,000,000
   Five hundred thousand=500,000
   Ninety-six = 96
   3,500,096
   [A]

2. $(8^2 \div 4^2) \times \sqrt{36}$
   $= (64 \div 16) \times 6$
   $= 4 \times 6 \times 6$
   $= 24$ [B]

3. Average = $\frac{\text{sum of number}}{\text{total number}}$
   $10 = \frac{17 + 13 + 6 + x}{4}$
   $\frac{10}{1} = \frac{36 + x}{4}$
   Cross multiply
   $36 + x = 10 \times 4$
   $36 + x = 40$
   $x = 40 - 36$
   $x = 4$ [C]

4. 5×125
   $8 \quad 125$
   $= \frac{625}{1000}$
   $= 0.625$ [D]

5. $\sqrt{\frac{36}{100} \div \frac{9}{81}}$
   $= \frac{6}{10} \div \frac{3}{9}$
   $= \frac{\cancel{6}^{2}}{\cancel{10}_{5}} \times \frac{9}{\cancel{3}}$
   $= \frac{9}{5}$
   $= 1^4/_5$ [C]

6. 1 metre = ₦800
   $10^3/_4$ metre = ₦$(800 \times 10^3/_4)$
   $= \frac{800}{1} \times \frac{43}{4}$
   $= 200 \times 43$
   = ₦8,600 [C]

7. 30, 11, 5, 17, 11, 15, 26, 11
   Mode = 11 [B]

8. $x^2 - y^2 = (x + y)(x - y)$
   $3^2 - 2^2 = (3 + 2)(3 - 2)$
   $= 5 \times 1$
   $= 5$ [D]

9. $120^2 = 120 \times 120$
   $= 14{,}400$ [B]

10. $|\text{adj}| = \sqrt{(hyp)^2 - (opp)^2}$
    $= \sqrt{(15)^2 - (12)^2}$
    $= \sqrt{225 - 144}$
    $= \sqrt{81}$
    = 9cm [A]

11. $1^1/_4 + 2^2/_3$
    $\frac{5}{4} + \frac{8}{3}$
    L.C.M = 12
    $= \frac{15 + 32}{12}$
    $= \frac{47}{12}$

$= 3^{11}/_{12}$ [D]

12.

2	36
2	18
3	9
3	3
	1

$= 2 \times 2 \times 3 \times 3$ [B]

13. Circumference $= 2\pi r$

$= 2 \times \frac{22}{7} \times \overset{0.2}{\cancel{1.4}}$

$= 44 \times 0.2$

$= 8.8\text{cm}$ [B]

14. $\frac{234}{100} = 2.34$ [C]

15. 1 tin $= \frac{\overset{21}{\cancel{147}}}{\cancel{7}}$

$\therefore$ 3 tins $= 3 \times 21$

$= 63\text{k}$ [B]

16. Fraction left $= 1 - \frac{2}{3}$

$= \frac{3-2}{3}$

$= \frac{1}{3}$

$\therefore \frac{1}{3}$ of 45

$= \frac{1}{\cancel{3}} \times \overset{16}{\cancel{48}}$

$= 16$

17.

$$\begin{array}{r} 1\,1\,0\,1 \\ 1\,2\,1\,1_3 \\ \hline 1\,0\,0\,1\,2_3 \end{array}$$

[B]

18. $12 : 27 = \frac{12}{37}$

$= \frac{4}{9}$

$= 4 : 9$ [D]

19. $\frac{25}{1} + \frac{1}{\cancel{2}} \times \frac{\overset{5}{\cancel{10}}}{1} - \frac{7}{1}$

$= 25 + 5 - 7$

$= 30 - 7$

$= 23$ [D]

20. $1^1/_2 + 1^2/_3 \div {}^{10}/_9 \times {}^3/_9$

$= \frac{3}{2} + \frac{\cancel{5}}{\cancel{3}} \times \frac{\cancel{9}}{\cancel{10}} \times \frac{\cancel{3}}{\cancel{9}}$

$= \frac{3}{2} + \frac{1}{2}$

L.C.M = 2

$= \frac{3+1}{2}$

$= \frac{4}{2}$

$= 2$ [D]

21. $2 : 8 = 16 : x$

$\frac{2}{8} = \frac{16}{x}$

Cross multiply

$2 \times x = 8 \times 16$

$\frac{2x}{2} = \frac{8 \times 16}{2}$

$x = 8 \times 8$

$x = 64$ [B]

22. 1 day = 24 hrs

5 days = (24 x 5) hrs

= 120 hrs

$\therefore$ (120 + 3) hrs = 123 hrs [B]

23. 60, 65, |71|, 75, 84

Median = 71 [A]

24. Volume = $\pi r^2 h$

$= \frac{\overset{11}{\cancel{22}}}{\cancel{7}} \times \frac{\overset{3}{\cancel{21}}}{\cancel{2}} \times \frac{21}{\cancel{2}} \times \frac{\overset{5}{\cancel{10}}}{1}$

= 11x 3 x 21 x 5

= 3456cm³

25. Let the second number be x

– 3x = 24

$x = \frac{24}{-3}$

x = – 8 [D]

26.
$$\begin{array}{r} 5\,8\,9\,9 \\ 5\,9\,4 \\ 8\,7 \\ +\quad 8 \\ \hline 6\,5\,8\,8 \end{array}$$
[C]

27.

3	18	45
3	6	15
	2	5

= 3 x 3

= 9 [D]

28. Let the number be x

7 + 4 x x = 55

7 + 4x = 55

4x = 55 – 7

$\frac{4x}{4} = \frac{48}{4}$

x = 12 [C]

29. Area = L x B

= 35 x 12

= 420cm² [B]

30. To and fro = 2(2100 + 900)

= 2(3000)

= 2 x 3000

= 6000m

1000m = 1km

$\therefore \frac{6000}{1000}$

= 6km [C]

31. (2100+900) x 2

3000 x 2

= 6000 metres

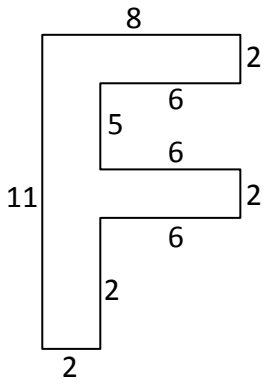
1000 metres = 1km

$\therefore \frac{6000}{1000}$

= 6km [C]

32. 3 in 423686 is Thousand

33.



∴ Perimeter = 11+8+2+6+5+6+2+6+2+2

= 50cm [C]

34. Scalene triangle [A]

35. $\frac{3}{\cancel{7}} \times \overset{54}{\cancel{378}} + \frac{5}{\cancel{9}} \times \overset{83}{\cancel{747}}$

= 3 x 54 + 5 x 83

= 162 + 415

= 577k

100k = ₦1

$\therefore$ 577k = $\frac{577}{100}$

= ₦5.77k [A]

36. 75k : 125k

$\frac{75}{125}$

$= \frac{3}{5}$

= 3 : 5

37.
$$\begin{array}{r} 4\,2\,3 \\ 2\,3\,4 \\ \hline 1\,6\,9\,2 \\ 1\,2\,6\,9 \\ +\ 8\,4\,6 \\ \hline 9\,8\,9\,8\,2 \end{array}$$
[D]

38. 90% of x = 81

$\frac{90}{100} \times x = 81$

$\frac{90}{90}x = \frac{81 \times 100}{90}$

x = 9 x 10

x = ₦90 [C]

39. Area = base x height

= 10 x 7

= 70cm² [D]

40. 132 – m = 47

Collect like terms

–m = 47 – 132

–m = –85

m = 85 [B]

41. Area = πr^2

$= \frac{\overset{11}{\cancel{22}}}{\cancel{7}} \times \frac{\overset{0.1}{\cancel{0.7}}}{\cancel{2}} \times \frac{0.7}{2}$

$= \frac{11 \times 0.01 \times 0.7}{2}$

$= \frac{0.77}{2}$

= 0.385 [D]

42. 4 lines of symmetry [A]

43. A prime number is a number that has only two factors which are 1 and itself. [B]

44. Circumference = $2\pi r$

$176 = 2 \times \frac{22}{7} \times r$

$\frac{176}{1} = \frac{44r}{7}$

$\frac{\cancel{44}}{\cancel{44}}r = \frac{7 \times \overset{4}{\cancel{176}}}{\cancel{44}}$

r = 7 x 4

r = 28 [A]

45.
$$\begin{array}{r} 6\,1\,8 \\ \times\ 1\,4\,3 \\ \hline 1\,8\,5\,4 \\ 2\,4\,7\,2 \\ +6\,1\,8 \\ \hline 8\,8\,3\,7\,4 \end{array}$$
[A]

46. Is an isosceles triangle [C]

47. A = $\pi r^2 \div 2$

$= \frac{\overset{11}{\cancel{22}}}{\cancel{7}} \times \frac{\cancel{7}}{1} \times \frac{7}{1} \times \frac{1}{\cancel{2}}$

= 11 x 7

= 77cm² [B]

48. 3 2 . 3 0 0

0 7 . 6 6 0

0 3 . 9 1 7

\+ 2 3 . 0 0 0

6 5 . 8 7 7 [D]

49. $^{1}/_{3}$, $^{1}/_{2}$, $^{2}/_{5}$, $^{1}/_{4}$

L.C.M = 60

20, 30, 24, 15

60

Ascending order = $^{1}/_{4}$, $^{1}/_{3}$, $^{2}/_{5}$, $^{1}/_{2}$ [C]

50. Let the number be x

3 x x + 6 = 45

3x + 6 = 45

Collect like terms

3x = 45 – 6

3x = 39 (divide both sides by 3)

$\frac{3x}{3} = \frac{39}{3}$

x = 13 [C]

QUANTITATIVE

2007

1. C
2. E
3. D
4. A
5. E
6. E
7. Bonus
8. A
9. B
10. D
11. C
12. B
13. B
14. C
15. C
16. B
17. C
18. B
19. D
20. B
21. C
22. E
23. B
24. D
25. E

PRIMARY SCIENCE

1. B
2. C
3. E
4. B
5. A
6. D
7. A
8. C
9. C
10.

2008

1. D
2. A
3. B
4. D
5. D
6. C
7. D
8. A
9. A
10. A
11. E
12. D
13. B
14. C
15. D
16. D
17. B
18. E
19. A
20. D
21. B
22. E
23. A
24. D
25. A

PRIMARY SCIENCE

1. D
2. A
3. D
4. B
5. C
6. B
7. C
8. A
9. E
10. C

2009

1. D
2. B
3. Sample
4. A
5. E
6. C
7. B
8. D
9. E
10. C
11. B
12. D
13. E
14. B
15. A
16. C
17. E
18. D
19. B
20. C
21. A
22. E
23. B
24. C
25. A

PRIMARY SCIENCE

1. E
2. B
3. A
4. B
5. C
6. D
7. C
8. A
9. B
10. C

2010

1. C
2. A
3. B
4. E
5. B
6. C
7. B
8. D
9. Bonus
10. D
11. E
12. C
13. D
14. B
15. C
16. A
17. B
18. B
19. C
20. E
21. A
22. C
23. B
24. A
25. D

PRIMARY SCIENCE

1. E
2. A
3. C
4. C
5. B
6. D
7. B
8. C
9. E
10. C

2011

1. C
2. E
3. B
4. D
5. E
6. C
7. D
8. A
9. B
10. E
11. D
12. B
13. B
14. A
15. E
16. C
17. D
18. D
19. C
20. B
21. E
22. B
23. Bonus
24. A
25. B

PRIMARY SCIENCE

1. Pollution
2. Domestic Animals
3. Eclipse
4. Cell
5. Pest
6. North and South polse
7. Diet
8. Erosion
9. Solar
10. Photosynthesis

2012

1. B
2. D
3. A
4. D
5. C
6. B
7. A
8. D
9. C
10. B
11. A
12. C
13. A
14. C
15. D
16. C
17. B
18. A
19. C
20. D
21. A
22. D
23. C
24. C
25. D

VOCATIONAL

1. C
2. A
3. A
4. B
5. D
6. C
7. A
8. B
9. D
10. D
11. A
12. B
13. C
14. A
15. B
16. B
17. C
18. D
19. C
20. C
21. C
22. C
23. D
24. A
25. D

2013

1. B
2. C
3. B
4. A
5. C
6. D
7. A
8. C
9. A
10. B
11. D
12. A
13. D
14. C
15. B
16. A
17. C
18. A
19. B
20. D
21. B
22. A
23. D
24. A
25. C

VOCATIONAL

1. A
2. D
3. A
4. D
5. D
6. B
7. B
8. B
9. B
10. A
11. B
12. C
13. C
14. B
15. D
16. D
17. C
18. D
19. A
20. A
21. C
22. A
23. A
24. D
25. A

2014

1. B
2. D
3. B
4. C
5. A
6. C
7. A
8. D
9. D
10. B
11. A
12. D
13. A
14. B
15. C
16. C
17. A
18. Bonus
19. B
20. B
21. D
22. B
23. C
24. B
25. C

VOCATIONAL

1. A
2. B
3. C
4. D
5. A
6. C
7. B
8. D
9. A
10. B
11. C
12. D
13. A
14. B
15. C
16. D
17. A
18. B
19. C
20. D
21. A
22. C
23. D
24. B
25. D

2015

1. D
2. A
3. C
4. D
5. A
6. B
7. D
8. C
9. A
10. C
11. A
12. D
13. C
14. A
15. D
16. D
17. D
18. D
19. D
20. A
21. C
22. B
23. C
24. D
25. C

VOCATIONAL

1. B
2. A
3. B
4. B
5. D
6. C
7. D
8. A
9. A
10. C
11. C
12. A
13. B
14. B
15. C
16. A
17. D
18. A
19. D
20. D
21. D
22. D
23. A
24. B
25. A

2016

1. C
2. C
3. B
4. B
5. B
6. D
7. C
8. A
9. A
10. C
11. Bonus
12. C
13. B
14. A
15. D
16. D
17. C
18. D
19. A
20. C
21. C
22. D
23. B
24. C
25. C

VOCATIONAL

1. C
2. C
3. A
4. C
5. D
6. A
7. B
8. B
9. D
10. C
11. C
12. B
13. A
14. D
15. C
16. A
17. D
18. D
19. A
20. C
21. A
22. D
23. D
24. A
25. A

2017

1. C
2. C
3. C
4. C
5. D
6. A
7. D
8. D
9. A
10. A
11. B
12. C
13. A
14. B
15. B
16. A
17. D
18. C
19. A
20. D
21. A
22. D
23. C
24. D
25. B

VOCATIONAL

1. B
2. C
3. C
4. D
5. C
6. B
7. C
8. C
9. B
10. D
11. B
12. A
13. A
14. A
15. D
16. A
17. C
18. B
19. A
20. C
21. D
22. C
23. A
24. D
25. B