Young Scholors Foundation

MATHEMATICS

GRADE 7

Prizes

1st Rank	2nd Rank	3rd Rank
Trip to Dubai	₹ 25000	₹ 10000
+	+	+
Gold Medal + Certificate of Excellence	Silver Medal + Certificate of Excellence	Bronze Medal + Certificate of Excellence

4th TO 10th Rank
Rs 1100
+ Certificate of Excellence

11th TO 50th Rank
Wrist Watch

+ Certificate of Excellence

Instructions

Time : 1 hour **Maximum Marks : 100**

1. Maximum Time is 1 hour & You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your **Name, School Code, Class, Roll No.** and **Mobile Number** clearly on the **OMR Sheet** and do not forget to sign it.
3. The Question Paper comprises four sections:
   Mathematical Reasoning (15 Questions), **General Maths** (15 Questions), **Logical Reasoning** (10 Questions) and Wise Wizard (10 Questions). Each question carries two marks.
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only.

Roll No | | | | | | |

Student Name | | | | | | | | | | |

Father's Name | | | | | | | | | | |

SECTION - A (MATHEMATICAL REASONING)

Q1. If (m + 8) and (n-8) are integers, then which one of the following may not be an integer?

A. (m + n) × (m - n) B. (m +8)-(n − 8)

C. (m +8) × (n − 8) D. m÷n

Q2. Which of the following statements is true?

A. $-\frac{3}{5}$ lies to the right of zero on number line.

B. The rational numbers $\frac{-17}{-13}$ *and* $\frac{-7}{17}$ lie on the same side of zero.

C. The rational numbers $\frac{-4}{-5}$ *and* $\frac{-4}{5}$ lie on opposite side of number line

D. None of the above

Q3. If we multiply a fraction by itself and divide the product by its reciprocal, then we get fraction $2\frac{307}{512}$. Which one of the following fractions is the original fraction?

A. $\frac{11}{8}$ B. $\frac{8}{11}$ C. $\frac{8}{13}$ D. $\frac{13}{8}$

Q4. The ratio of the ages of two boys is 5: 6. After 2 years, the ratio of their ages will be 7: 8. The ratio of their ages after 10 years will be

A. 15:16 B. 17:18 C. 11:12 D. 22:24

Q5. Two-third of one-seventh of a number is 87.5% of 240. What is the number?

A. 2670 B. 2450 C. 2205 D. 1470

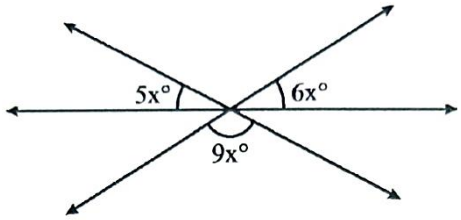
Q6. The solution of the equation

2(3x+7) + 4 (3x-2)= 6 (5x-9) – 12 is:

A. A natural number B. A rational number

C. An integer D. All of these

Q7. Find the value of x in the figure given below:-

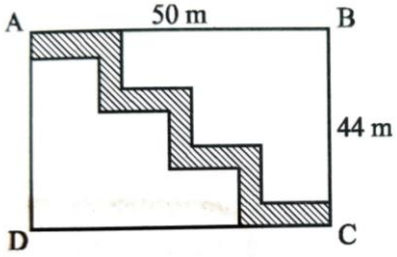


A. 9° B. 18° C. 20° D. 22°

Q8. 12. How many numbers between 50 to 100 are divisible by 5 and 6 both?

A. 2 B. 3 C. 4 D. 5

Q9. What will be total cost (in Rs.) of levelling the shaded path of uniform width 6m, laid in the rectangle ABCD given below, where cost of levelling per m^2 is Rs. 125?



A. 66000 B. 67000 C. 69000 D. 70500

Q10. A mobile phone is sold for 10656 at the loss of 4%. What will be the gain in percent if it is sold for Rs. 12543?

A. 11% B. 12% C. 13% D. 14%

Q11. A certain plant grows $2\frac{3}{5}$ inch every week.How long will it take the plant to grow$7\frac{4}{5}$ inch?

A. 3 weeks B. 3 weeks and 2 days

C. 3 weeks and 4 days D. 4 weeks

Q12. The expression $\frac{\frac{a}{b}-1}{\frac{a}{b}+1}$ is equivalent to

A. $\frac{a+b}{a-b}$ B. $\frac{a-b}{a+b}$ C. $\frac{1}{a-b}$ D. $\frac{1}{a+b}$

Q13. Alex, Browny and Kate share some marbles. Browny had 40% more marbles than Alex. Kate has $\frac{6}{10}$ what Browny had. If Kate had 1176 marbles, then how many marbles did they have altogether?

A. 4500 B. 4526 C. 4536 D. 5656

Q14. Which of the given sequences of operators satisfies the following equation?

3 ____ 11 ____ 24___ 4 ___ 16=43

A. ×, ÷ , - , + B. ×, - , ÷, + C. + , ÷, - , × D. + , - , ÷, ×

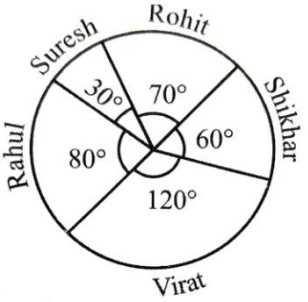
Q15. Find the value of b, if

$$\frac{1}{3+\frac{1}{4+\frac{1}{b+\frac{1}{6}}}} = \frac{130}{421}.$$

A. 2 B.3 C. 4 D. 5

SECTION - B (GENERAL MATHS)

Q16. The following pie chart represents 5400 runs scored by 5 cricketers in a year:



Find the difference of the runs scored by Rahul and Virat.

A. 600 B. 900 C. 1000 D. 1200

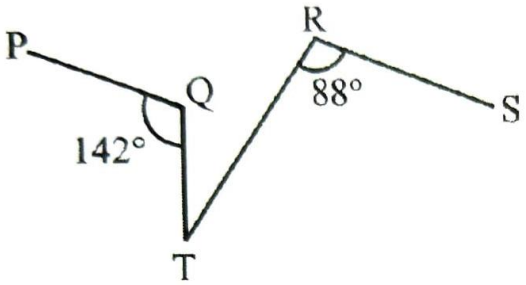
Q17. If the range of the data 17, 19, 16, 23, 25, 11, 18, 27, 9, 15, 32, m, 10, 30, 18, 7, 21, 24, 34, 19 is 29, then m cannot be_____

A. 36 B. 34 C. 5 D. greater than 29

Q18. If the median of the observations 21, 23,25, 37, 49, x, x + 2, 73, 81, 82, 94, 97 arranged in ascending order is 52, find the value of x.

A. 49 B. 50 C. 51 D. 52

Q19. In the figure given below PQ is parallel to RS, then find the measure of $\angle QTR$.



A. 42° B. 46° C. 50° D. 40°

Q20. The present age of Rahul is thrice that of Shivam. Eight years from now, Rahul's age will be one more than twice the age of Shivam. Find the present age of Rahul.

A. 9 years B. 12 years C. 27 years D. 36 years

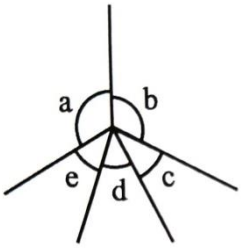
Q21. In the figure shown below, find the ratio of the shaded parts to the whole figure.

A. $\frac{1}{2}$ B. $\frac{1}{4}$ C. $\frac{1}{6}$ D. $\frac{1}{8}$

Q22. The measure of an angle for which the measure of the supplement is 14° less than to three times of the complement is_____.

A. 30° B. 34° C. 36° D. 38°

Q23. If a,b,c,d and e are respectively the consecutive even numbers in degree, then what will be the measure of c?



A. 262.50 cm^2 B.272.50cm^2 C. 131.25cm^2 D. 118.75cm^2

Q24. Which one of the following sums of fractions is equal to the sum $(0.\overline{6}+0.\overline{2})$?

A. $\frac{1}{3}+\frac{1}{3}$ B. $\frac{5}{9}+\frac{4}{9}$ C. $\frac{1}{3}+\frac{2}{9}$ D. $\frac{2}{3}+\frac{2}{9}$

Q25. What number should be subtracted from each of the numbers 12, 16, 20 and 28

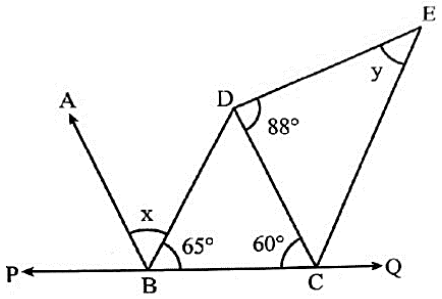
so that these numbers are in proportional?

A. 2 B. 4 C. 6 D. 8

Q26. The price of one dozen eggs was Rs. 60 in August and the price of half dozen eggs was Rs. 37.50 in September in a particular year. Calculate the percentage increase in the price of eggs in one month.

A. 24% B. $12\frac{1}{2}\%$ C. 25% D. 20%

Q27. In the figure shown below, AB is parallel to DC and DB is parallel to CE. Find the difference of x and y.



A. 17° B. 18 ° C. 19° D. 20°

Q28. The difference between the length and breadth of a rectangle is 23 m. If the perimeter is 206 m, then the area is

A. 1520 m² B. 2520 m² C. 2420 m² D. None of these

Q29. A number is multiplied and divided by the same number $\frac{7}{19}$. The difference between the two results is 312. The given number is:

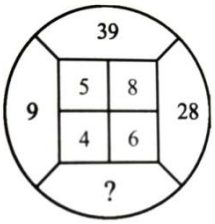
A. 133 B. 19 C. 49 D. 7

Q30. The selling price of 4 articles is equal to the cost price of 5 articles. If the C.P. of 1 article is Rs. 100, then what is the gain on each article?

A. Rs. 20 B. Rs. 25 C. Rs. 12.50 D. Rs. 50

SECTION - C (LOGICAL REASONING)

Q31. Insert the missing number.



A. 10 B. 16 C. 18 D. 20

Q32. From the four positions of a dice given below, find the colour which is opposite to yellow?

A. Violet B. Red C. Rose D. Blue

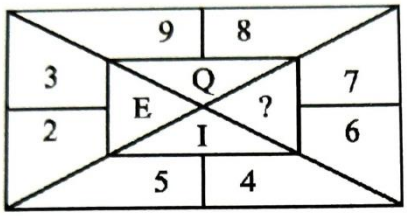
Q33. Given that

1. A is the brother of B
2. C is the father of A
3. D is the brother of E
4. E is the daughter of B

Then, the Uncle of D is

A. A B. B C. C D. E

Q34. Find the missing letter in the following table.



A. R B. N C. M D. L

Q35. Complete the following series.

BXL, ETD, FRC, CXH, ?

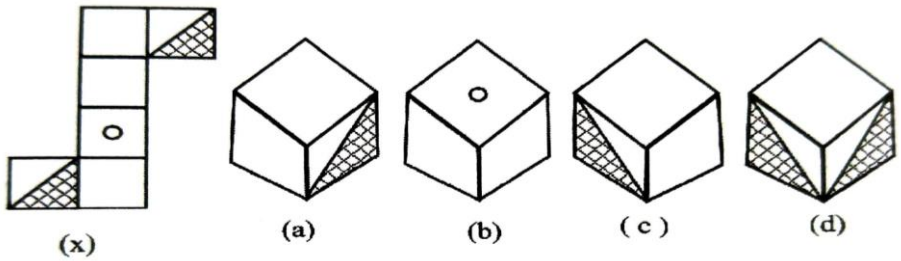
A. SLT B. PLB C. CDB D. BVK

Q36. Two brothers were expected to return home on the same day. Rajat returned 3 days earlier but Rohit returned 4 days later. If Rajat returned on Thursday, then what was the expected day when both the brothers were to return home and when did Rohit return?

A. Wednesday, Sunday B. Thursday, Monday

C. Sunday, Thursday D. Monday, Friday

Q37. How does the shape (X) below will look like when folded in?



A. a and c only
B. a and b only
C. b and d only
D. c and d only

Q38. In the following question

'△' " means 'bigger than'.

'□ ' means 'smaller than'.

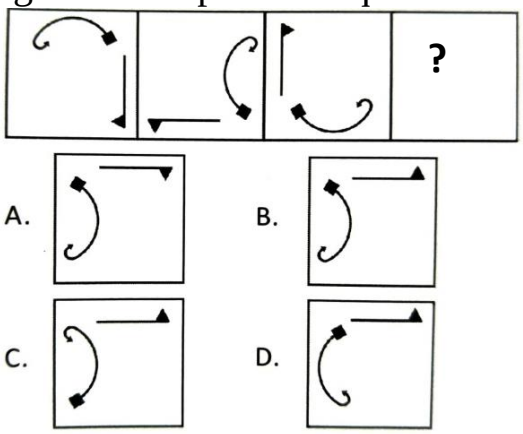
' ϕ' means 'is equal to'.

' ⊕ ' means, is not equal to'

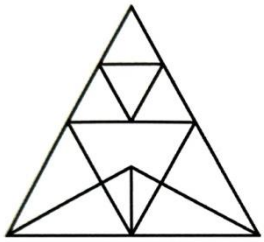
If C△A; A□ B; D ϕ B and B□ C, then

A. D△A B. D□ C C. A△ C D. B⊕D

Q39. Which figure will replace the question mark (?) in figure pattern given below?



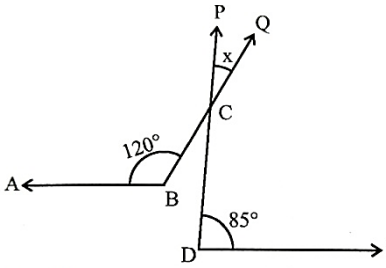
Q40. How man triangles are there in the figure given below.



A. 16 B. 18 C. 20 D. 22

SECTION - D (WISE WIZARD)

Q41. In the given figure, AB ||DE, determine the value of x.



A. 20° B. 25° C. 30° D. 32°

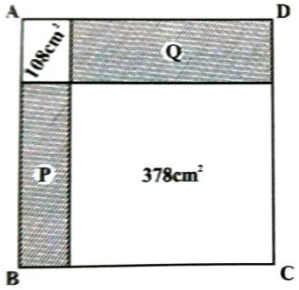
Q42.The price of banana is reduced by 25%, due to which one can buy 2 dozen bananas more than before for Rs. 162. The original rate per dozen of the bananas is_____

A. Rs. 24 B. Rs. 25 C. Rs. 26 D. Rs.27

Q43. Atul is walking at the speed of 45 km/h and reaches his office 10 minutes late. Next time he increases his speed by 15 km/h but still he is late by 5 minutes. Find the distance of his office from his house.

A. 10 km B. 15 km C. 20 km D. 45 km

Q44. In the figure shown below, ABCD is a square divided into four rectangles. The area of two rectangles are given. If the side of each rectangle is an integer, then the ratio of the areas of rectangle Q to that of rectangle P is:



A. 15:4 B. 17:5 C. 14:9 D. 12:7

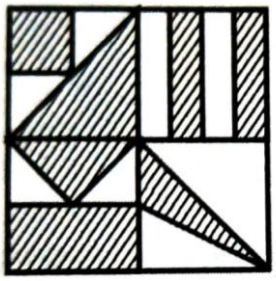
Q45. If $x^2 + 1 = -2x$ then, find the value of $x^{2n-1} - \frac{1}{x^{2n+1}}$, Where n is any positive integer.

A. 0 B. -1 C. -2 D. None of these

Q46. 17 numbers are arranged in ascending order whose average is 27. If the average of first 7 numbers is 15 and the average of last 7 numbers is 36, then the average of remaining numbers will be:

A. 32 B. 34 C. 39 D. 31

Q47. Find the reciprocal of the fraction represented by shaded parts in the given figure.



A. $\frac{8}{3}$ B. $\frac{16}{7}$ C. $\frac{16}{9}$ D. 2

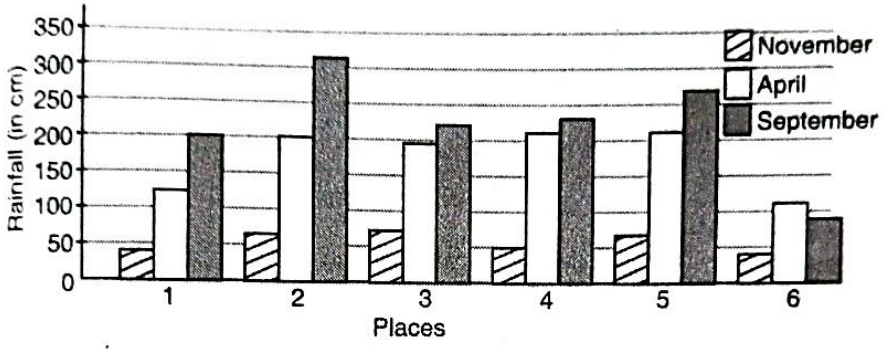
Q48. 10 men or 20 women or 40 children can do a piece of work in 7 months. Then 5 men, 5 women and 5 children together can do half of the work in

A. 6 months B. 4 months C. 5 months D. 8 months

Q49. The ages of two friends A and B differ by 3 years. A's father D is twice as old as A and B is twice as old as his sister C. The ages of C and D differ by 30 years, then find the ages of A and B.

A. 19 yr, 15 yr
B. 18 yr, 16 yr
C. 19yr, 16 yr
D. 18 yr, 15 yr

Q50. The following bar graph shows the rainfall at selected locations in certain months?



Which of the following statements is correct :

A. November rainfall exceeds 100 cm in each location.
B. September rainfall exceeds April rainfall by 50 cm in each location.
C. November rainfall is lower than April rainfall in each location.
D. None of the above.

Space for rough work