Young Scholars Foundation

MATHEMATICS

GRADE 6

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

Q1. The difference between two numbers is 7 and their sum is 35. What will be their product?

    a. 324   b. 294   c. 79   d. 245

Q2. Which one of the following numbers will replace the question mark (?) in the mathematical statement given below?

$$\frac{1}{2} + \frac{2}{3} \times 4 + \frac{3}{4} \times 5 = \frac{11}{12} + ?$$

    a. 6   b. 3   c. 4   d. 5

Q3. Zinc and copper are in the ratio of 5:3 in 200 gm of an alloy. How much grams of copper must be added to make the ratio 3:5?

    a. $133\frac{1}{3}$ b. $\frac{1}{200}$ c. 72   d. 66
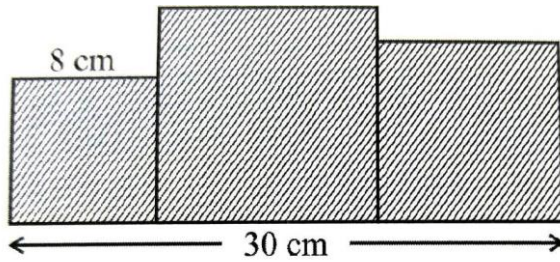
Q4. What percent of the whole figure is unshaded?

    a. $33\frac{1}{3}$%   b. $67\frac{1}{2}$%   c. $66\frac{2}{3}$%   d. $83\frac{1}{3}$%

Q5. If x= 3, y = -2 and z=5, then the value of $(x^3 - y^2 + z)$ is:

    a. 19   b. 24   c. 28   d.22

Q6. In the figure given below, if $\angle COQ = \angle BOP$, then $\angle POQ$ is equal to:
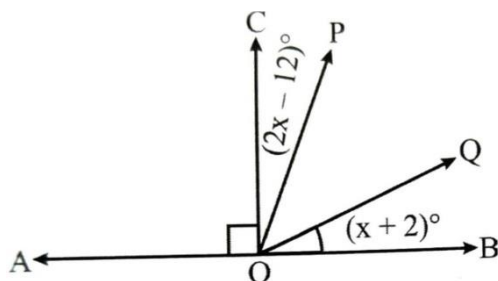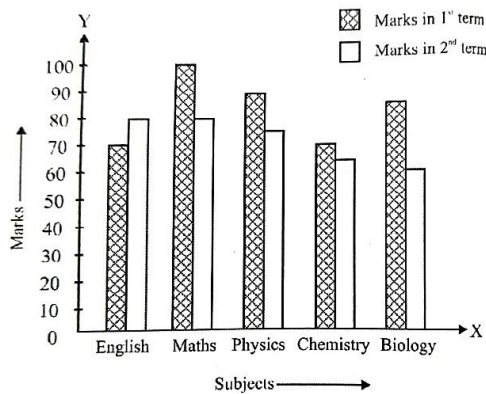

    a. 54°   b. 52°   c. 56°   d. 58°

Q7. Three squares are joined together as shown below. If the perimeter of middle square is 48 cm, find the perimeter of whole figure.

8 cm

30 cm

    a. 92cm   b. 96 cm   c. 94 cm   d. 84 cm

Q8. Study the bar diagram and answer the question:

Ratio of the highest and lowest marks obtained in first term among all the subjects?

    a. 7: 9   b. 9:7   c. 10:7   d. 7:10

Q9. Which one of the following is the coefficient of y in the expression 2-3y + z?

    a. 2   b. 1   c. -3   d. -1

Q10. The number which can be written in the form of n(n+1) (n+2), where n is a natural number , is

    a. 3   b. 6   c. 7   d. 5

Q11. If x can finish a job in 4 hours and y can finish the same job in 8 hours, then they both together will finish the job in

    a. 160 minutes   b. 150 minutes   c. 140 minutes   d. 120 minutes

Q12. There is a number consisting of two digits. The digit in the units place is twice than that in the tens place and if 2 be subtracted from the sum of the digits, the result equals to 1/6th of the number. The number is

a. 24   b. 26   c. 25   d. 23

Q13. There are two numbers such that the sum of twice the 1st number and thrice the second number is 141 and sum of thrice the 1st number and twice the second number is 174. What is the largest number?

a. 52   b. 36   c. 48   d. 24

Q14. What is the predecessor of the smallest 5-digit number formed by the digits 2,8, 0, 7 where 0 is repeated twice?

a. 20769   b. 27799   c. 20079   d. 20077

Q15. The pie chart below shows how Anamika spends her salary every month.
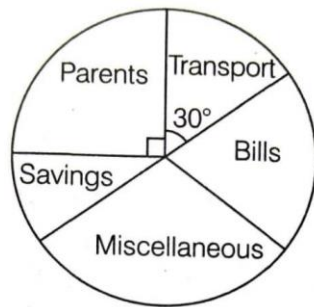
What percentage of her money does she save?

a 16.67%   b. 15%   c. 17.7%   d. None of these

SECTION - B (GENERAL MATHS)

Q16. An angle exceeds its supplement by 20°, then the angle is

a. 100°   b. 55°   c. 50°   d. Can't say

Q17. If 7 # 2* 5 is 19, 6 # 3* 4 is 22, then 11 #3 * 2 is equal to

a. 30   b. 25   c. 17   d. 35

Q18. A monkey sits on wall that is 24 feet above the ground. He swing up 11 feet, climbs up 6 feet more and then jumps down 13 feet. How far off the ground is the monkey now?

a. 31 ft   b. 25 ft   c. 54 ft   d. 28 ft

Q19. In the given figure if ∠f: ∠g= 3:2, then what is the value of ∠g?
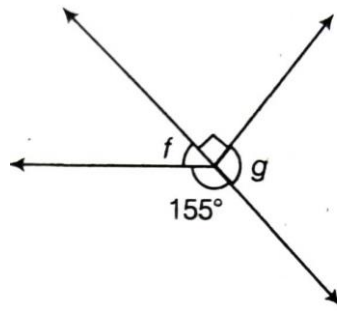
    a. 46°   b. 69°   c. 110°   d. 155°

Q20. Of six consecutive numbers, the sum of first three is 27. What is the sum of next three?

    a. 30   b. 40   c. 36   d. 45

Q21. $100\frac{1}{2} - x = 92\frac{3}{4}$. The value of x is

    a. $9\frac{1}{4}$ b. $8\frac{1}{4}$ c. $8\frac{1}{3}$ d. $7\frac{3}{4}$

Q22. What number should be subtracted from both the terms of the ratio 15: 19 in order to make it 3 : 4?

    a. 9   b. 3   c. 5   d. 2

Q23. 15% of 180 + x % of 250 = 11 % of 700. x equals to
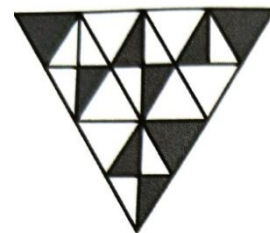
    a. 25   b. 20   c. 18   d. 16

Q24. Simplify : $\frac{11}{7} \times \frac{14}{33} \div \frac{1}{3} + \frac{9}{2} - \frac{7}{2}$

    a. $\frac{1}{3}$ b. $\frac{1}{2}$ c. 3   d. 2

Q25. What percent of the given figure is shaded?

    a. $37\frac{1}{2}$ %   b. $35\frac{1}{2}$ %

    c. $31\frac{1}{2}$ %   d. $41\frac{1}{2}$ %

Q26. Which one of the following has the same value as the given statement has?

> 2+5+7+11 +93 +89+98 +95

  a. 200+ 200+ 200 + 200
  b. 95+93 + 105 + 106
  c. 100 + 100 + 100 + 100
  d. 99+ 101 +98 + 102 + 90 + 110

Q27. Find the product of the unknown numbers A, B and C in the given magic square, where the sum of the numbers in every horizontal line, vertical line and the diagonal remain same.

4	C	8
A	7	B
6	5	10

  a. 432   b. 297   c. 180   d. 1188

Q28. Which one of the following is correct for the statements given below?

Statement 1: Difference of any two consecutive odd numbers is always a prime number.

Statement 2: Difference of any two consecutive even numbers is always a composite number.

  a. Statement 1 is true and 2 is false.
  b. Statement 2 is true and 1 is false.
  c.   Both the statements 1 and 2 are true.
  d. Both the statements 1 and 2 are false.

Q29. If **a**, 108, **x** and 324 are in proportion, then the value of '**a**' will be:
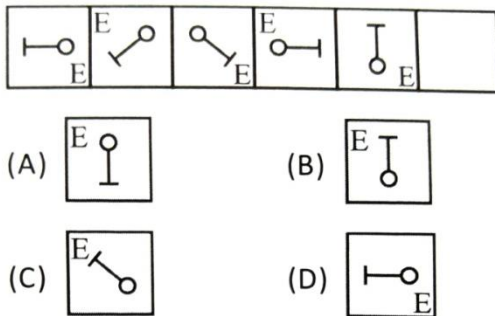
  a. 3x   b. $\dfrac{x}{3}$ c. 12 x   d. $\dfrac{x}{12}$

Q30. Gery bought 12 erasers and 2 pens. Each earser's costs Rs. X and each pen's

cost Rs. 20.How much did he pay altogether?

a. 12 x   b.14x + 20   c. 12x +40   d. 40 x+12

Q31. What comes next in the given series?

Q32. A, B, C, D, E and F are sitting in a circle. A is to the immediate left of C,

B is between D and E, F is between D and C. Who is to the left of B?

a. C   b. D   c. E   d. A

Q33. If the 3rd day of a month is Friday, what day will be on the 4th day after the

21st day of the month?

a. Monday   b. Tuesday   c. Saturday   d. Sunday

Q34. If 'South-East' becomes 'North', 'North- East' becomes 'West' and so on,

then what will 'West' become?

a. North-East   b. North-West   c. South-East   d. South-West

Q35. In a certain code 'MINUTE' is written as 987654 and 'HOUR' is written as

3261, then how is 'ROUTINE' written in this code?

a. 1267584   b. 1265874   c. 1285674   d. 3265784
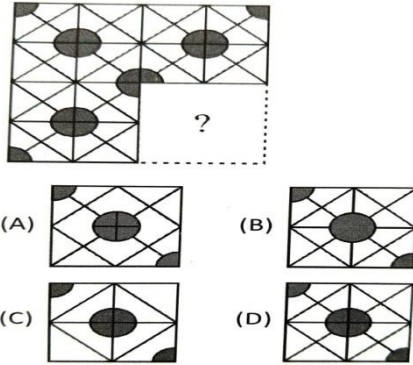
Q36. Count the number of cubes in the given solid.
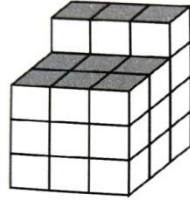
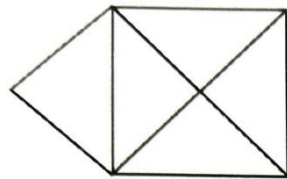   a. 20   b. 21   c. 24   d. 30

Q37. Pointing to an old man, Rahul said, "his son is my son's uncle". How is the old man related to Rahul?

    a. Grandfather   b. Father   c. Uncle   d. Brother

Q38. Which one of the following will complete the figure shown below?
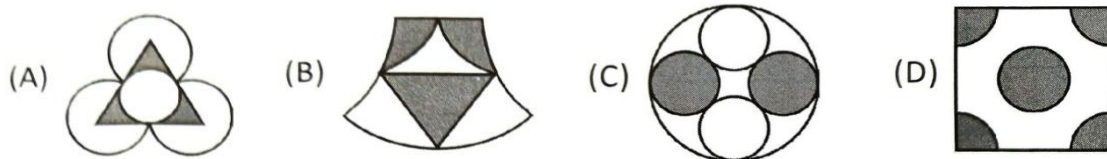

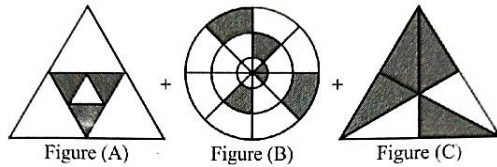Q39. How many quadrilaterals are there in the given figure?

    a. 4   b. 5   c. 6   d. 7

Q40. Which one of the following figures has exactly two lines of symmetry?

Q41. When the fractions represented by shaded parts in the given figures (A),(B) and (C) are added to each other, the resulting fraction in its simplest form is:

Figure (A)   +   Figure (B)   +   Figure (C)

a. $\dfrac{51}{48}$ b. $\dfrac{29}{24}$ c. $\dfrac{53}{48}$ d. $\dfrac{31}{24}$

Q42. Figure given below shows 7 identical rectangles which lie inside the rectangle ABCD. Find the area of shaded portion.
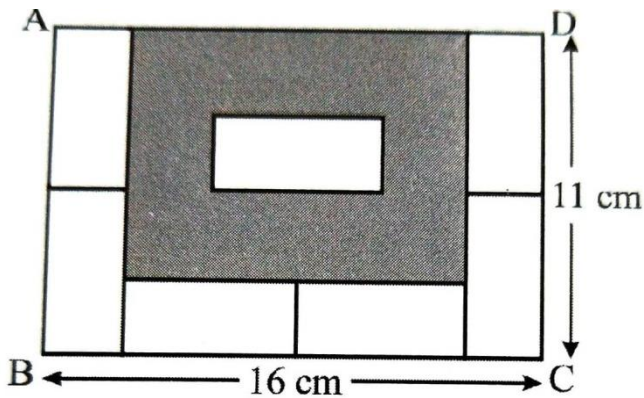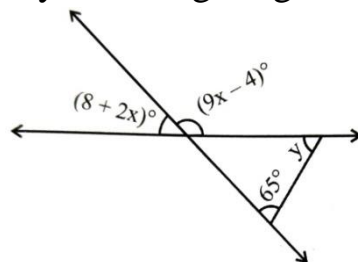

a. 73.50 cm^2 b. 89.25cm^2 c. 79.75 cm^2 d. 83.75 cm^2

Q43. A number 4805a9b1 is divisible by 3 where a and b stand for digits of the number. If the sum of all digits is 36, then the product of **a** and **b** cannot be:

a. 0   b. 8   c. 15   d. 18

Q44. Find the value of y in the figure given below.

a. 65°   b. 70°   c. 75°   d. 60°

Q45. In a division sum, the divisor is ten times the quotient and five times the remainder.If the remainder is 46, find the dividend.

a. 5388   b. 5343   c. 5336   d. 5391

Q46. The ratio between the length and the breadth of a rectangular park is 14: 11. If a man cycling along the boundary of the park at the speed of 21 km/hr completes one round in 13 minutes, then the area of the park (in sq. meter) is:

a. 1536550   b. 1236550   c. 1275274   d. 1155000

Q47. In a farm there are cows and hens. The heads counted are 180 and the legs counted are 420. Then find the number of cows in the farm.

a. 150   b. 30   c. 130   50

Q48. The pie chart given below represents the favourite games of 560 students of a school.
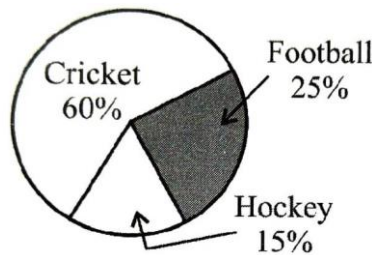
How many more students have Cricket as their favourite game than Football?

a. 252   b. 196   c.168   d. 186

Q49. If $\dfrac{1}{18} = \dfrac{x}{162} = \dfrac{24}{y}$, then the value of $\dfrac{x+y}{21}$ is :

a. 23   b. 21   c. 24   d. 27

Q50. Simplify and choose the correct option.

$$\cfrac{1}{1-\cfrac{1}{2-\cfrac{1}{3-m}}}$$

a. $\dfrac{5-2m}{2-m}$ b. $\dfrac{5+2m}{3+m}$ c. $\dfrac{5m-2}{m+2}$ d. None of these

Space for rough work