

Question Paper – 4

ONE MARK QUESTIONS

1. If $a_n = 3n - 8$, find 8th term.
2. The tip of the cylindrical pencil is sharpened. Now what is the combination of shapes it has?
3. The nature of the roots of the quadratic equation $ax^2 + bx + c = 0$ are real and distinct. Then write value of its discriminant.
4. The ratio of areas of two similar triangles is 1:4. Find the ratio of their corresponding sides.
5. If $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are representing the parallel lines, then how many solutions does the equations have?

TWO MARKS QUESTIONS

6. Find the 12th term of an AP 10, 6, 2.....
7. If $2\sin\theta = 1$, find the values of $\operatorname{cosec}\theta$ and $\tan\theta$
8. Solve: $3x + 2y - 7 = 0$ and $4x + y - 6 = 0$ by elimination method.
9. Solve : $x^2 - 5x + 6 = 0$ using formula
10. Draw a circle of radius 5 cm. from a point 4 cm away from the circle, construct the pair of tangent to the circle.
11. Find the distance between the points (3,1) and (0,-2)
12. Find the discriminant and nature of the roots of equation $2x^2 - 5x + 3 = 0$.

THREE MARKS QUESTIONS

13. Prove that “the tangent at any point of a circle is perpendicular to the radius through the point of contact”.

14. Construct a triangle of sides 3cm, 4cm and 5cm and then a triangle similar to it whose sides are $\frac{3}{2}$ of the corresponding sides of the first triangle.

15. The weight of 50 students of a class are given in the following distribution table. Draw an ogive for the given data.

Weight in kg	Less than 35	Less than 40	Less than 45	Less than 50	Less than 55
Number of students	6	15	31	41	50

16. Find the mean of the following data.

C.I	0-30	30-60	60-90	90-120	120-150
Frequency	5	6	9	6	4

FOUR MARKS QUESTIONS

17. Solve $2x + y = 6$ and $2x - y = 2$ graphically.

FIVE MARKS QUESTION

19. State and prove Thales theorem.
