



Nishant eAcademy

CBSE Sample Paper Class 10 Mathematics 2022-23

Subject: Mathematics Class: 10 Maximum Marks: 80 Duration: 3 hours

Section A: Objective Type Questions (1 mark each)

1. If $\sin\theta = 3/5$, find $\cos\theta$.
2. Find the distance between points P(3, 4) and Q(7, 8).
3. If $x + 2y = 10$, find the value of $3x - 2y$.
4. What is the value of $\sqrt{25 + 9}$?
5. Find the HCF of 36 and 48.

Section B: Short Answer Type Questions (2 marks each)

6. Solve the equation: $2x - 5 = 3$.
7. If the zeroes of the quadratic polynomial $x^2 - 5x + k$ are equal, find the value of k .
8. If the ratio of the areas of two similar triangles is 4:9, what is the ratio of their corresponding sides?
9. A dice is thrown once. Find the probability of getting an odd number.
10. Solve the pair of linear equations: $2x + y = 7$ $x - 3y = 1$

Section C: Long Answer Type Questions (4 marks each)

11. In the figure, find the value of x and y : [diagram of two parallel lines intersected by a transversal]
12. A cylindrical container with radius 7 cm contains water up to a height of 10 cm. Calculate the volume of water in the container in liters.
13. A card is drawn from a well-shuffled deck of 52 playing cards. Find the probability that the card drawn is a red queen.



14. Solve the following quadratic equation by using the quadratic formula: $3x^2 + 2x - 1 = 0$.

Section D: Very Long Answer Type Questions (6 marks each)

15. Find the value of 'k' for which the quadratic equation $3x^2 - 4x + k = 0$ has real and equal roots.
16. A ladder 10 meters long is leaning against a vertical wall. The foot of the ladder is 6 meters away from the wall. Find the height at which the ladder touches the wall.
17. Prove that the sum of the angles of a quadrilateral is 360 degrees.
18. From the top of a 7-meter high building, the angle of elevation of the top of a tower is 30 degrees. Find the distance between the building and the tower.