

SECOND MID TERM TEST - 2024

Standard IX

Reg.No.

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MATHEMATICS

Time : 1.30 hrs

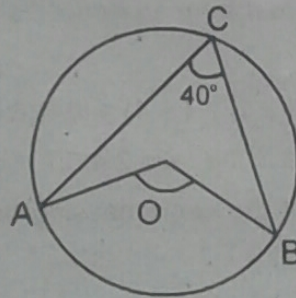
Part - I

Marks : 50

I. Choose the correct answer:

7 x 1 = 7

1. If one angle of a cyclic quadrilateral is 75° , then the opposite angle is
 - a) 100°
 - b) 105°
 - c) 85°
 - d) 90°
2. A chord is at a distance of 15 cm from the centre of the circle of radius 25 cm, the length of the chord is
 - a) 25 cm
 - b) 20 cm
 - c) 40 cm
 - d) 18 cm
3. The interior angle made by the side in a parallelogram is 90° , then the parallelogram is
 - a) rhombus
 - b) rectangle
 - c) trapezium
 - d) kite
4. If Q_1, Q_2, Q_3, Q_4 are the quadrants in a Cartesian plane, then $Q_2 \cap Q_3$ is _____.
 - a) $Q_1 \cup Q_2$
 - b) $Q_2 \cup Q_3$
 - c) Null set
 - d) Negative x-axis
5. In the figure, O is the centre of the circle and $\angle ACB = 40^\circ$ then $\angle AOB =$



- a) 80°
 - b) 85°
 - c) 70°
 - d) 65°
6. If $(1, -2)$, $(3, 6)$, $(x, 10)$ and $(3, 2)$ are the vertices of the parallelogram taken in order then the value of x is
 - a) 6
 - b) 5
 - c) 4
 - d) 3
 7. If $(2, 3)$ is a solution of linear equation $2x + 3y = k$, then the value of k is.
 - a) 12
 - b) 6
 - c) 0
 - d) 13

Part - II

II. Answer any 5 of the following questions. (Q.No.14 is compulsory) 5 x 2 = 10

8. Define concentric circles.
9. The chord of length 30 cm is drawn at the distance of 8 cm from the centre of the circle find the radius of the circle.

10. Find the distance between the points $(-4, 3)$ $(2, -3)$
11. $(-2, 3)$ and $(-6, -5)$ find the mid-points of line segment.
12. The lengths of the diagonals of a Rhombus are 12 cm and 16 cm. Find the side of the rhombus.
13. $(2, 5)$, $(-1, -3)$ which quadrant does the points lie?
14. a) The point $(3, -4)$ is the centre of a circle. If AB is a diameter of the circle and B is $(5, -6)$. Find the co-ordinates of A.
- (OR)
- b) Solve : $2x - y = 3$; $3x + y = 7$

Part - III

III. Answer any 5 of the following questions. (Q.No.21 is compulsory) 5 x 5 = 25

15. Find the co-ordinates of the point which divides the line segment joining the points $A(4, -3)$ and $B(9, 7)$ in the ratio 3:2.
16. Properties of Chords of a circle.
17. Show that the points taken in order from an isosceles triangle.
 $A(5, 4)$ $B(2, 0)$ $C(-2, 3)$
18. Show that the following points $A(3, 1)$ $B(6, 4)$ and $C(8, 6)$ lies on a straight line.
19. The angles of a quadrilateral are in the ratio 2:4:5:7. Find all the angles.
20. Show that $(4, 3)$ is the centre of the circle passing through the points $(9, 3)$ $(7, -1)$ $(-1, 3)$. Also find its radius.
21. If $(x, 3)$ $(6, y)$ $(8, 2)$ and $(9, 4)$ are the vertices of a parallelogram taken in order, then find the value of x and y .

Part - IV

IV. Answer the following.

1 x 8 = 8

22. a) Plot the following points $A(2, 2)$ $B(-2, 2)$ $C(-2, -1)$ $D(2, -1)$ in the Cartesian plane. Discuss the type of the diagram by joining all the points taken in order.

(OR)

- b) Draw the graph : $y = 3x - 1$
