SECOND MID TERM TEST - 2024

Standard IX   Reg.No. ☐☐☐☐☐☐

MATHEMATICS

Marks : 50

Time : 1.30 hrs   Part - I
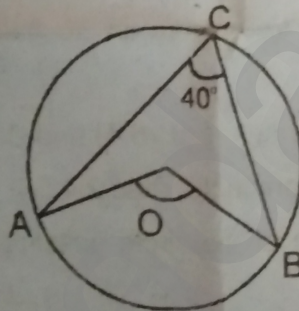
7 × 1 = 7

I. Choose the correct answer:

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
   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 ∠ACB = 40° then ∠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.

2　　　　　　　　　　　　　　　　　　　　**IX Maths**

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)　　　$5 \times 5 = 25$

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. Show that the point are collinear or not

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.　　　　　　　　　　　　　　　　$1 \times 8 = 8$

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 : $y = 3x - 1$

******