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SECOND MID TERM TEST - 2024

Standard IX

Reg.No. ☐☐☐☐☐☐

MATHEMATICS

Time : 1.30 hrs   **Marks : 50**

13)11)24   7 x 1 = 7

Part - I

I. Choose the correct answer:

1. Linear equation in two variables has _____ solutions.
    a) no solution   b) two solutions   c) unique   d) infinite

2. In a cyclic quadrilaterals ABCD, $\angle A = 4x$, $\angle C = 2x$, the value of x is
    a) 30°   b) 20°   c) 15°   d) 25°

3. 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) 25cm   b) 20cm   c) 40cm   d) 18cm

4. The distance between the point (5,–1) and the origin is _____.
    a) $\sqrt{24}$ b) $\sqrt{37}$ c) $\sqrt{26}$ d) $\sqrt{17}$

5. The mid-point of the line joining (–a,2b) and (–3a,–4b) is
    a) (2a, 3b)   b) (–2a, –b)   c) (2a, b)   d) (–2a, –3b)

6. On plotting the points O(0,0), A(3,–4), B(3,4) and C(0,4) and joining OA, AB, BC and CO, which of the following figure is obtained?
    a) Square   b) Rectangle   c) Trapezium   d) Rhombus

7. If (x+2, 4) = (5, y–2), then the coordinates (x, y) are _____.
    a) (3,6)   b) (6,3)   c) (7,12)   d) (2,1)

Part - II

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

8. Find the value of x°.
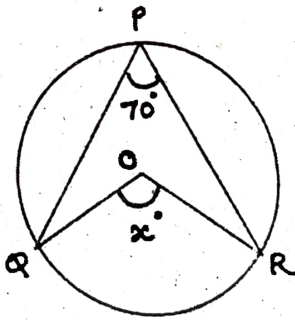
9. The lengths of the diagonals of a Rhombus are 12 cm and 16 cm. Find the side of the rhombus.

10. Find the distance between the points (–4,3), (2,–3)

11. Ffind the mid-points of the line segment joining the points (–2,3) and (–6,–5)

12. Find the coordinates of the point which divides the line segment joining the points (3,5) and (8,–10) internally in the ratio 3 : 2.

13. Find the centroid of the triangle whose vertices are (2,–4), (–3,–7) and (7,2)

14. Find the value of x in the given figure.
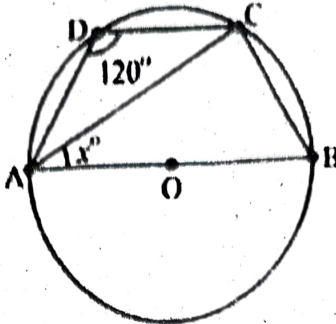
Part - III

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

15. The angles of a quadrilateral are in the ratio 2 : 4 : 5 : 7. Find all the angles.

16. Find the length of a chord which is at a distance of $2\sqrt{11}$ cm from the centre of a circle of radius 12 cm.

17. Show that the points taken in order form an equilateral triangle $A(\sqrt{3},2)$, $B(0,1)$, $C(0,3)$

18. 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.

19. Find the coordinates of the points of trisection of the line segment joining the points A(–5,6) and B(4,–3)

20. Find the length of median through A of a triangle whose vertices are A(–1,3), B(1,–1) and C(5,1).

21. Find all the angles of the given cyclic quadrilateral ABCD in the figure.
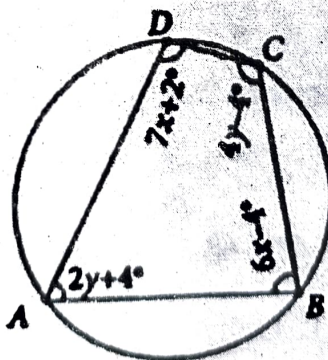
Part - IV

                                                                1 x 8 = 8

IV. **Answer any one.**

22. a) Draw the graph for the following : y = 3x – 1

                                   (OR)

    b) Solve graphically : x + y = 7 ; x – y = 3

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