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COMMON SECOND MID TERM TEST - 2023

Time: 1.30 hrs.

Standard - IX
MATHEMATICS

Reg.No.

Marks: 50

PART - I

I. Choose the best answer:

4×1=4

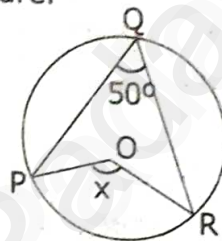
1. If $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ where $a_1x + b_1y + c_1 = 0$, $a_2x + b_2y + c_2 = 0$ then the given pair of linear equation has _____ solutions.
 1) no solution 2) two solutions 3) infinite 4) unique
2. A chord is at a distance of 15cm from the centre of the circle of radius 25cm. The length of the chord is
 1) 25cm 2) 20cm ✓ 3) 40cm 4) 18cm
3. The distance between the point (5, -1) and the origin is
 1) $\sqrt{24}$ 2) $\sqrt{37}$ 3) $\sqrt{26}$ ✓ 4) $\sqrt{17}$
4. In what ratio does the y axis divide the line joining the points (-5, 1) and (2, 3) internally.
 1) 1 : 3 2) 2 : 5 3) 3 : 1 4) 3 : 2

PART - II

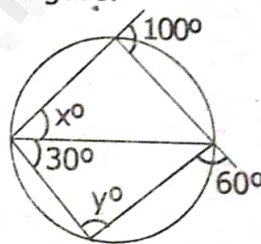
Answer any 5. Ques.No.11 compulsory:

5×2=10

5. Find the value of x° in the figure.



6. Find the value of x° & y° in the figure.



7. Check the value of k for which the given system of equation $kx + 2y = 3$; $2x - 3y = 1$ has a unique solution.
8. Find the distance between the pair of points (3, 4) and (-7, 2) *8 units*
9. Find the mid points of the line segment joining the points (-2, 3) and (-6, -5)
10. Find the points of intersection of the line segment joining (-2, -1) and (4, 8).
11. Find the centroid of the triangle whose vertices are (2, 4) (-3, -7) and (7, 2)

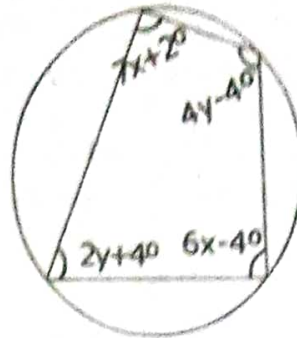
PART - III

Answer any 5. Question No.18 is compulsory:

4×5=20

12. Solve using the method of substitution : $2x - 3y = 7$; $5x + y = 9$
13. Solve $3x - 4y = 10$ and $4x + 3y = 5$ by the method of cross multiplication.

14. The angles of a quadrilateral are in the ratio 2 : 4 : 5 : 7. Find all the angles.
15. Find the length of a chord which is at a distance of $2\sqrt{11}$ cm from the centre of a circle of radius 12cm.
16. Find all the angles of the given cyclic quadrilateral ABCD in the figure.



17. Show that the following points taken in order form an equilateral in each case.
 A (2, 2) B (-2, -2) C $(-2\sqrt{3}, 2\sqrt{3})$
18. The mid points of the sides of a triangle are (5, 1) (3, -5) and (-5, -1) find the coordinates of the vertices of a triangle.

PART - IV

Answer the all questions:

2 × 8 = 16

19. A) Use graphical method to solve the following system of equations.

$$x + y = 5 ; 2x - y = 4$$

(OR)

- B) Solve graphically : $x + y = 7 ; x - y = 3$

20. Draw the graph of the following :

A) $y = 4x - 1$

(OR)

B) $3x + 2y = 14$
