

## SECOND MID TERM TEST - 2023

9 - Std

MATHS

Time: 1.15 Hrs.

Marks: 50

### PART - A

I. Choose the correct answer.

7x1=7

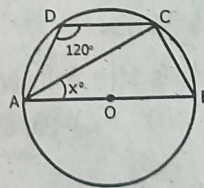
1. If the diagonal of a rhombus are equal, then the rhombus is a  
 a) Parallelogram but not a rectangle      b) Rectangle but not a square  
 c) Square      d) Parallelogram but not a square
2. The interior angle made by the side in a parallelogram is  $90^\circ$  then the parallelogram is a  
 a) rhombus    b) rectangle      c) trapezium    d) kite
3. In the figure, O is the centre of the circle and  $\angle ACB = 40^\circ$  then  $\angle AOB =$  \_\_\_\_\_  
 a)  $80^\circ$       b)  $85^\circ$     c)  $70^\circ$       d)  $65^\circ$
4. 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
5. The distance between the two points (2,3) and (1,4) is \_\_\_\_\_  
 a) 2      b)  $\sqrt{56}$     c)  $\sqrt{10}$       d)  $\sqrt{2}$
6. If  $(x+2, 4) = (5, y-2)$  then the co-ordinate (x, y) are \_\_\_\_\_  
 a) (7, 12)      b) (6, 3)      c) (3, 6)      d) (2, 1)
7. If the co-ordinate of one end of a diameter of a circle is (3, 4) and the co-ordinate of its centre is (-3, 2) then the co-ordinate of the other end of the diameter is  
 a) (0, -3)      b) (0, 9)    c) (3, 0)      d) (-9, 0)

### PART - B

II. Answer any 5 questions (Ques: 14 is compulsory)

5x2=10

8. The angle of a quadrilateral are in the ration 2:4:5:7. Find all the angles.
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 value of x in the given figure.

11. Show that the following points A(3,1), B(6,4) and C(8,6) lies on a straight line.

12. If the mid-point (x,y) of the line joining (3,4) and (P,7) lies on  $2x+2y+1=0$ , then what will be the value of P?

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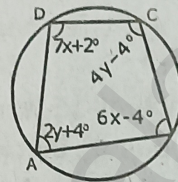
13. Find the co-ordinates of the point which divides, the line segment joining the points (3, 5) and (8, -10) internally in the ratio 3:2.
14. Find the co-ordinates of a point P on the line segment joining A(1,2) and B(6,7) in such a way that  $AP = \frac{2}{5} AB$ .

**III. Answer any 5 questions (Ques: 21 is compulsory)**

**5 x 5 = 25**

15. Show that the bisectors of angles of a parallelogram form a rectangle.
16. Show that the points A(7, 10), B(-2, 5), C(3, -4) are the vertices of a right angled triangle.

17. Find all the angles of the given cyclic quadrilateral ABCD in the figure.



- 18) Show that the points A(7, 10), B(-2, 5), C(3, -4) are the vertices of a right angled triangle.
- 19) The midpoint of the sides of a triangle are (2, 4), (-2, 3) and (5, 2). Find the coordinates of the vertices of the triangle.
20. Using section formula, show that the points A(7, -5), B(9, -3) and C(13, 1) are collinear.
- 21) Find the value of 'a' such that  $PQ = QR$  where P, Q and R are the points whose coordinates are (6, -1), (1, 3) and (a, 8) respectively.

**IV. Answer any one questions.**

**8 x 1 = 8**

22. In which quadrant does the following points lie?  
 a) (3, -8)    b) (-1, -3)    c) (2, 5)    d) (-7, 3)

**(Or)**

Plot the following points in the co-ordinate plane and join them. What is your conclusion about the resulting figure?

(-5, 3), (-1, 3), (0, 3), (5, 3)

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