



## Standard 9

## MATHS

Time: 1.30 Hrs.

Marks: 50

## PART - I

## I. Answer all the questions:

7×1=7

- 1) 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
- 2) If  $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$  where  $a_1x+b_1y+c_1 = 0$  and  $a_2x+b_2y+c_2 = 0$  then given pair of linear equation has \_\_\_\_\_ solution.  
a) no solution      b) two solution      c) unique      d) infinite
- 3) Angle inscribed in a semicircle is a \_\_\_\_\_ angle.  
a) Acute angle                      b) Right angle  
c) Obtuse angle                      d) Straight angle
- 4) If one angle of a cyclic quadrilateral is  $75^\circ$ , then the opposite angle is \_\_\_\_\_.  
a)  $100^\circ$                       b)  $105^\circ$                       c)  $85^\circ$                       d)  $90^\circ$
- 5) If (3, x) is the mid-point of the line segment joining the points A(8, -5), B(-2, 11) then find the value of x.  
a) 6                      b) 2                      c)  $2\sqrt{11}$                       d) 16
- 6) The distance between the points (5, -1) and origin is \_\_\_\_\_.  
a)  $\sqrt{24}$                       b)  $\sqrt{37}$                       c)  $\sqrt{26}$                       d)  $\sqrt{17}$
- 7) The point whose ordinate is 4 and which lies on the y-axis is \_\_\_\_\_.  
a) (4, 0)                      b) (0, 4)                      c) (1, 4)                      d) (4, 2)

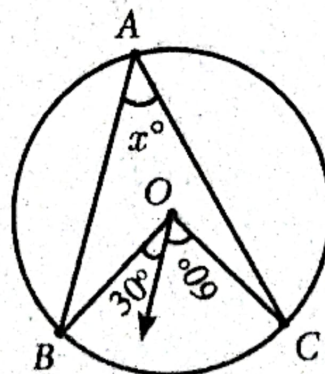
## PART - II

## II. Answer any 5 questions: (Q.No. 14 is compulsory)

5×2=10

- 8) Check the value of K for which the given system of equation  $Kx+2y = 3$ ;  $2x-3y = 1$  has a unique solution.
- 9) The length of the diagonals of a rhombus are 12 cm and 16 cm. Find the side of the rhombus.
- 10) 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.

- 11) Find the value of x.



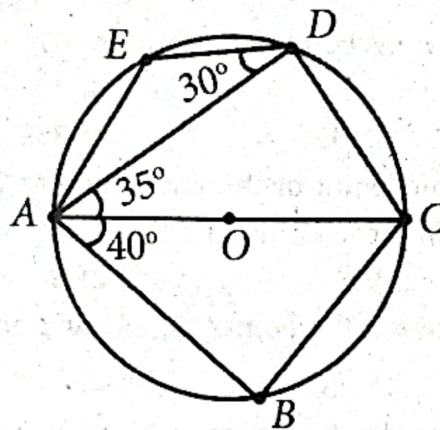
V9M

2

- 12) Following the points in the coordinate system identify the quadrants.  
 (a)  $(-7, 6)$  (b)  $(7, -2)$  (c)  $(-6, -7)$  (d)  $(3, 5)$
- 13) Find the distance between following pairs of points (a, b) and (c, b).
- 14) The points  $(3, -4)$  is the centre of circle. If AB is a diameter of the circle and B is  $(5, -6)$  find the coordinates of A.

**PART - III****III. Answer any 5 questions: (Q.No. 21 is compulsory)****5×5=25**

- 15) Solve  $3x-4y = 10$  and  $4x+3y = 5$  by the method of cross multiplication.
- 16) ABCD is a cyclic quadrilateral such that  $\angle A = (4y+20)^\circ$ ,  $\angle B = (3y-5)^\circ$ ,  $\angle C = (4x)^\circ$  and  $\angle D = (7x+5)^\circ$ . Find the four angles.
- 17) In a parallelogram ABCD, the bisectors of the consecutive angles  $\angle A$  and  $\angle B$  intersect at P. Show that  $\angle APB = 90^\circ$ .
- 18) In the given figure AC is the diameter of the circle with centre O. If  $\angle ADE = 30^\circ$ ;  $\angle DAC = 35^\circ$  and  $\angle CAB = 40^\circ$  find (i)  $\angle ACD$  (ii)  $\angle ACB$  (iii)  $\angle DAE$ .



- 19) Show that the following points taken in order form the vertices of parallelogram:  $A(-3, 1)$ ,  $B(-6, -7)$ ,  $C(3, -9)$ ,  $D(6, -1)$
- 20) The mid point of the sides of a triangle are  $(2, 4)$ ,  $(-2, 3)$  and  $(5, 2)$ . Find the coordinates of the vertices of the triangle.
- 21) Show that  $(4, 3)$  is the centre of circle passing through the points  $(9, 3)$ ,  $(7, -1)$ ,  $(-1, 3)$ . Also find its radius.

**PART - IV****IV.****1×8=8**

- 22) Use graphical method to solve the following system of equations:

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

**(OR)**

Solve graphically:

$$3x+2y = 4; \quad 9x+6y-12 = 0$$