

# Maths Worksheet

## Class X , Chapter -7, Coordinate Geometry

Q.1 Tick the correct answer :

- 1) A line segment is of length 10 units. If the coordinates of its one end are  $(1, 4)$  and the ordinate of the other end is  $-2$ , then its abscissa is  
 a)  $7, -9$                       b)  $9, -7$                       c)  $-7, -9$                       d)  $9, 7$
- 2) The area of a triangle with vertices  $(a, b+c)$ ,  $(b, c+a)$  &  $(c, a+b)$  is  
 a)  $(a+b+c)^2$                       b)  $0$                       c)  $a+b+c$                       d)  $abc$
- 3) The perpendicular bisector of the line segment joining the points  $A(1, 5)$  and  $B(4, 6)$  cuts the y-axis at  
 a)  $(0, 13)$                       b)  $(0, -13)$                       c)  $(0, 12)$                       d)  $(13, 0)$
- 4) If the area of a triangle formed by the points  $(k, 2k)$ ,  $(-2, 6)$  and  $(3, 1)$  is 20 square units, then  $k =$   
 (a)  $5$                       (b)  $4$                       (c)  $\frac{3}{5}$                       (d)  $\frac{2}{3}$
- 5) The points which lies on the perpendicular bisector of the line segment joining the points  $A(-2, -5)$  and  $B(2, 5)$  is  
 (a)  $(0, 0)$                       (b)  $(0, 2)$                       (c)  $(2, 0)$                       (d)  $(-2, 0)$
- 6) The co-ordinates of the points  $A$  and  $B$  are  $(3, -5)$  &  $(1, -2)$  respectively. Then the ordinate of a point  $C$  on the line segment  $AB$ , such that  $\frac{AC}{AB} = \frac{4}{7}$  is  
 (a)  $\frac{23}{7}$                       (b)  $-\frac{23}{7}$                       (c)  $\frac{26}{7}$                       (d)  $-\frac{26}{7}$
- 7) The perimeter of a triangle with vertices  $(0, 4)$ ,  $(0, 0)$  &  $(3, 0)$  is  
 (a)  $5$                       (b)  $12$                       (c)  $11$                       (d)  $7.5$
- 8) If the points  $(1, x)$ ,  $(5, 2)$  &  $(9, 5)$  are collinear then value of  $x$  is  
 a)  $\frac{5}{2}$                       (b)  $-\frac{5}{2}$                       (c)  $-1$                       (d)  $1$
- 9) The end points of diameter of circle are  $(2, 4)$  &  $(-3, -1)$ . The radius of the circle is  
 a)  $\frac{5\sqrt{2}}{2}$                       (b)  $5\sqrt{2}$                       (c)  $3\sqrt{2}$                       (d)  $\frac{\pm 5\sqrt{2}}{2}$

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- 13 Find the ratio in which the line  $x + 3y - 14 = 0$  divides the line segment joining the points  $A(-2, 4)$  &  $B(3, 7)$ .
- 14 If the points  $(p, q)$ ,  $(m, n)$  &  $(p-m, q-n)$  are collinear, show that  $pn = qm$ .
- 15 In what ratio does the x-axis divide the line segment joining the points  $(-4, -6)$  &  $(-1, 7)$ ? Find the coordinates of the point of division.
- 16 If  $D(\frac{-1}{2}, \frac{5}{2})$ ,  $E(7, 3)$  and  $F(\frac{7}{2}, \frac{1}{2})$  are the mid-points of sides of  $\triangle ABC$ , find the area of the  $\triangle ABC$ .
- 17 The centre of a circle is  $(2a, a-7)$ . Find the values of  $a$  if the circle passes through the point  $(11, -9)$  and has diameter  $10\sqrt{2}$  units.
- 18 Find the co-ordinates of the points which divide the line segment joining  $A(5, -6)$  and  $B(-1, 8)$  into four equal parts.
- 19 Find the third vertex of a triangle, if two of its vertices are at  $(-3, 1)$  and  $(0, -2)$  and the centroid is at the origin.
- 20 The area of a triangle is 5 square units. Two of its vertices are  $(2, 1)$  and  $(3, -2)$ . The third vertex lies on the line  $y = x + 3$ . Find the third vertex.
- 21 If the points  $A(1, 2)$ ,  $B(2, 3)$ ,  $C(a, 2)$  and  $D(-4, -3)$  form a parallelogram, find the value of  $a$  and height of parallelogram taking  $AB$  as base.
- 22 Show that the points  $(a, a)$ ,  $(-a, -a)$  and  $(-\sqrt{3}a, \sqrt{3}a)$  are the vertices of an equilateral triangle. Also find its area.
- 23 Find the area of the quadrilateral formed by joining the points  $A(-4, 2)$ ,  $B(-3, -5)$ ,  $C(3, -2)$  and  $D(2, 3)$ .
- 24 Name the type of quadrilateral formed, if any, by the points  $A(2, -1)$ ,  $B(3, 4)$ ,  $C(-2, 3)$  and  $D(-3, -2)$ . Give reasons.
- 25 If  $(-4, 3)$  and  $(4, 3)$  are the two vertices of an equilateral triangle, find the co-ordinates of the third vertex, given that the origin lies in the interior of the triangle.
- 26 If the vertices of a triangle are  $(-2, 3)$  and  $(4, 3)$ . Find the