

## Co-ordinate Geometry

1] The distance between the points  $p(x_1, y_1)$  and  $q(x_2, y_2)$  given by :

A]  $\sqrt{(x_1 + x_2)^2 + (y_1 + y_2)^2}$

B]  $\sqrt{(x_1 + x_2)^2 - (y_1 + y_2)^2}$

C]  $\sqrt{(x_1 - x_2)^2 - (y_1 + y_2)^2}$

D]  $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

2] The coordinates of origin are:

A] ( 1, 1 )

B] ( 2, 2 )

C] ( 0, 0 )

D] ( 3, 3 )

3] The distance between the co-ordinates of points ( p, q ) from the origin:

A]  $p^2 - q^2$

B]  $\sqrt{p^2 - q^2}$

C]  $\sqrt{p^2 + q^2}$

D]  $q^2 - p^2$

4] The distance between origin and a point (0, 4) is:

A] 2

B] 4

C] 8

D] 16

5] The distance between the points (2, 3) and (6, 6) is:

A] 5 units

B] 7 units

C] 3 units

D] 4 units

6] The distance between the origin and the point (12, -5) is:

A] -5 units

B] 12 units

C] 7 units

D] 13 units

7] The distance of the point (-4, -7) from the y-axis is:

A] 4 units

B] 7 units

C] 11 units

D]  $\sqrt{65}$  units

8] If the points (k, 2k), (3k, 3k) and (3, 1) are collinear, then k.

A]  $-\frac{1}{3}$

B]  $\frac{1}{3}$

C]  $-\frac{2}{3}$

D]  $\frac{2}{3}$

9] If x is a positive integer such that the distance between points P (x, 2) and Q (3, -6) is 10 units, then x =

A] -3

B] 3

C] 9

D] 0

10] If A (2, 2), B (-4, 4) and C (5, -8) are the vertices of a triangle, then the length of the median through vertex

A]  $3\sqrt{5}$

B]  $3\sqrt{17}$

C]  $\sqrt{157}$

D]  $\sqrt{213}$

11] If points (a, 0), (0, b) and (1, 1) are collinear, then  $\frac{1}{a} + \frac{1}{b} =$

A] -1

B] 1

C] 0

D] 2

12] The area of the triangle formed by (a, b + c), (b, c + a) and (c, a + b) so

A] 0

B] abc

C]  $(a + b + c)^2$

D] none of these

13] A circle drawn with origin as the centre passes through  $(\frac{13}{2}, 0)$ . The point which does not lie in the interior of

- A]  $(\frac{-3}{4}, 1)$     B]  $(2, \frac{7}{3})$     C]  $(5, \frac{1}{2})$     D]  $(-6, 3)$

14] A line intersects the y-axis and x-axis at the points P and Q, respectively. If  $(2, -5)$  is the midpoint of PQ. The co ordinates P and Q are, respectively.

- A]  $(0, -5)$  and  $(2, 0)$     B]  $(0, 10)$  and  $(-4, 0)$   
 C]  $(0, 4)$  and  $(-10, 0)$     D]  $(0, -10)$  and  $(4, 0)$

15] If the distance between the points  $(4, p)$  and  $(1, 0)$  is 5, then the value of p is

- A] 4 only    B]  $\pm 4$     C]  $-4$  only    D] 0

16] If the points A  $(1, 2)$ , O  $(0, 0)$  and C  $(a, b)$  are collinear, then

- A]  $a = b$     B]  $a = 2b$     C]  $2a = b$     D]  $a = -b$

17] The distance of the point P  $(2, 3)$  from the x-axis is

- A] 2    B] 3    C] 1    D] 5

18] The distance between the points A  $(0, 6)$  and B  $(0, -2)$  is

- A] 6    B] 8    C] 4    D] 2

19] The distance of the point P  $(-6, 8)$  from the origin is

- A] 8    B]  $2\sqrt{7}$     C] 10    D] 6

20] The distance between the points  $(0, 5)$  and  $(-5, 0)$  is

- A] 5    B]  $5\sqrt{2}$     C]  $2\sqrt{5}$     D] 10

21] The points  $(-4, 0)$ ,  $(4, 0)$ ,  $(0, 3)$  are the vertices of a

- A] right triangle    B] isosceles triangle    C] equilateral triangle    D] Scalene triangle

22] The point which divides the line segment joining the points  $(7, -6)$  and  $(3, 4)$  in ratio  $1 : 2$  internally lies in

- A] I quadrant    B] II quadrant    C] III quadrant    D] IV quadrant

23] The point 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]  $(-2, 0)$

- 24] The fourth vertex D of a parallelogram ABCD whose three vertices are A (-2, 3), B (6, 7) and C (8,3) is  
 A] ( 0, 1 )                      B] ( 0, -1 )                      C] ( -1, 0 )                      D] (1, 0 )
- 25] If the point P (2, 1) lies on the line segment joining points A(4, 2) and B(8, 4), then  
 A]  $AP = \frac{1}{3}AB$                       B]  $AP = PB$                       C]  $PB = \frac{1}{3}AB$                       D]  $AP = \frac{1}{2}AB$
- 26] If P  $\left(\frac{a}{3}, 4\right)$  is the mid-point of the line segment joining the points Q(-6, 5) and R(-2, 3), then the value of a is  
 A] - 4                      B] - 12                      C] 12                      D] - 6
- 27] The perpendicular bisector of the line segment joining the point A (1,5) and B(4, 6) cuts the y-axis at  
 A] ( 0, 13 )                      B] ( 0, -13 )                      C] ( 0, 12 )                      D] (13, 0 )
- 28] The co ordinates of the point which is equidistant from the three vertices of the  $\Delta AOB$  as shown in the Fig Q 21 is  
 A] ( x, y )                      B] ( y, x )                      C]  $\left(\frac{x}{2}, \frac{y}{2}\right)$                       D]  $\left(\frac{y}{2}, \frac{x}{2}\right)$
- 29] AOB is rectangle whose three vertices are A (0, 3), (0, 0) and B(5, 0). The length of its diagonal is  
 A] 5                      B] 3                      C]  $\sqrt{34}$                       D] 4
- 30] The perimeter of a triangle with vertices (0,4), (0, 0) and (3, 0) is  
 A] 5                      B] 12                      C] 11                      D]  $7 + \sqrt{5}$
- 31] The area of a triangle with vertices A (3, 0) , B(7, 0) and C(8,4) is  
 A] 14                      B] 28                      C] 8                      D] 6
- 32] The distance of the point (4, 7) from the y-axis is  
 A] 4                      B] 7                      C] 11                      D]  $\sqrt{65}$
- 33] If points A(5, P), B(1, 5), C(2, 1) and D(6, 2) form a square ABCD, then P =  
 A] 7                      B] 3                      C] 6                      D] 8
- 34] The ratio in which (4, 5) divides the join of (2, 3) and (7, 8) is  
 A] 7 : 2                      B] - 8 : 3                      C] 3 : 2                      D] 2 : 3
- 35] If the point p(x, y) is equidistant from A(5, 1) and B(- 1, 5), then  
 A]  $5x = y$                       B]  $x = 5y$                       C]  $3x = -2y$                       D]  $3x = 2y$

36] If the distance b/w the points.  $(a \cos \theta + b \sin \theta, 0)$  and  $(0, a \sin \theta - b \cos \theta)$  is

- A]  $a^2 + b^2$     B]  $a + b$     C]  $a^2 - b^2$     D]  $\sqrt{a^2 + b^2}$

37] The perimeter of the triangle formed by the points  $(0,0)$ ,  $(1, 0)$  and  $(0, 1)$  is

- A]  $1 \pm \sqrt{2}$     B]  $\sqrt{2} + 1$     C] 3    D]  $2 + \sqrt{2}$

38] The point on the x-axis which is equidistant from points  $(-1, 0)$  and  $(5, 0)$  is

- A]  $(0, 2)$     B]  $(2, 0)$     C]  $(3, 0)$     D]  $(0, 3)$

39] The coordinates of a point on x-axis which lies on the perpendicular bisector of the line segment joining the points  $(7, 6)$  and  $(-3, 4)$  are

- A]  $(0, 2)$     B]  $(3, 0)$     C]  $(0, 3)$     D]  $(2, 0)$

40] The coordinates of the centroid of a triangle whose vertices are  $(0, 6)$ ,  $(8, 12)$  and  $(8, 0)$  is

- a)  $(4, 6)$     b)  $(16, 6)$     c)  $(8, 6)$     d)  $(16/3, 6)$