UNIT-4: CO-ORDINATE GEOMETRY

Questions related to Distance formula :

1.1 Find the distance between the points (3, -6) and (-2, -6).

1.2 Calculate how far these points are (3, -6) and (-2,-6).

1.3 Check whether the distance between points (3, -6) and (-2,-6) is 5 units.

1.4 The distance between the points (3, y) and (-2,-6) is 5 units. Find the value of 'y'.

1.5 The distance between the points (a, -6) and (-2,-6) is 5 units. Find the value of 'a'.

2.1 Find the co-ordinates of points on the X-axis, which are at a distance of 5 units from the point (-1, -4).

2.2 Find the co-ordinates of points on the Y-axis, which are at a distance of $4\sqrt{2}$ units from the point(-4, 2).

3.1 A point P(2, -1) is equidistant from the points (a, 7) and (-3, a). Find 'a'.

3.2 Which point on the X-axis is equidistant from the points (7, 6) & (-3, 4)?

3.3 Find a point on the Y-axis which is equidistant from the point (5, 2) and (-4, 3).

3.4 If the point A(a, 2) is equidistant from the points B(8, -2) and C(2, -2), find the value of 'a'.

4.1 Using distance formula, show that the point (1, -1), (5, 2) and (9, 5) are collinear.

5.1 The circle with centre (x, y) passes through the point (3, 11), (14, 0) and (12, 8). Find the values of 'x' and 'y'.

6.1 Prove that the points P(0, 4), Q(6, 2), R(3, 5) and S(-3, -1) are the vertices of a rectangle PQRS.

6.2 Show that (-3, 2), (-5, 5), (2, -3) and (4, 4) are the vertices of a Rhombus.

6.3 Prove that the points A(-5, 4), B(-1, -2) and C(5, 2) are the vertices of an isosceles triangle.

6.4 The points A(3, 0), B(a, 2) and C(4, -1) are the vertices of triangle ABC right angled at vertex A. Find the value of 'a'.

Questions related to Section Formula :

1.1 Find the coordinates of the point which divides the join of (-1,7) & (4,-3) in the ratio 2:3.

1.2 Calculate the coordinates of the point P which divides the line segment joining A (-1, 7) & B (4,-3) in the ratio 2:3.

1.3 Find the co-ordinates of the point of trisection of the line segment joining the points (-1,7) & (4,-3).

1.4 Find the co-ordinates of the point of trisection of the line segment joining the points (6,-9) & origin.

1.5 Points A, B, C & D divide the line segment joining the point (5,-10) & the origin in five equal parts. Find the co-ordinates of B & D.

1.6 The line joining the points A(-3,-10) & B(-2,6) is divided by the point P such that PB/PA=1/5. Find the coordinates of P.

1.7 P is a point on the line joining A(4,3) & B(-2,6) such that 5AP=2BP.Find the co-ordinates of P.

2.1 Find the ratio in which the segment joining the points (-1,7) & (4,-3) is divided by (1,3).

2.2 In what ratio is the line joining (2,-4) & (-3,6) divided by the y-axis ? Also find the co-ordinates of intersection.

2.3 In what ratio does the point (a,6) divide the join of (-4,3) & (2,8) ? Also find the Value of 'a'.

2.4 In what ratio is the line joining (2,-3) & (-3,6) divided by the x-axis ? Also find the co-ordinates on x-axis.

2.5 Calculate the ratio in which the line joining the points (-3,-1) & (5,7) is divided by the line x=2. Also find the co-ordinates of the point of intersection.

Questions related to Mid-point Formula :

1.1 Find the midpoint of the line segment joining the points (1, 0) (0, 1).

1.2 Find the midpoint of the line segment joining the points (-1,7) & (4,-3).

1.3 Find the coordinates of the line segment joining the points (-1,7) & (4,-3) in the ratio 2:2.

1.4 M is the midpoint of the line segment joining the points A(0,4) & B(6,0). Find the co-ordinates of M.

Questions related to Area of Triangle :

1.1 Find the area of the Triangle whose vertices are (-7,-3) (3,0) (2,2).

1.2 Find the area of the Quadrilateral ABCD whose vertices are A(-3,-1) B(-2,-4) , C(4,-1) & D(3,4).

2.1 Prove the points (5,-4) , (3,-1) & (1,2) are collinear.

2.2 Prove that the points P (a, b+c) , Q (b, c+a) & R (c, a+b) are collinear.

3.1 Find the value of 'y' for which the points (5,-4) , (3,-1) & (1, y) are collinear.

3.2 For what values of 'k' are the points (8,1) , (3,-2k) & (k,-5) are collinear?

4.1 Find the value of ‘k’ so that the area of the triangle with vertices (1,-1), (-4,2k) & (-k,-5) is 24 sq.unit.

4.2 If the vertices of a triangle are (1,-3) , (4,p) & (-9,7) and its area is 15 sq unit, then find value of ‘p’.

4.3 If the area of the Quadrilateral ABCD whose vertices are A(-3,-1) B(-2,x) , C(4,-1) & D(3,4) is 24 sq.unit , then find value of ‘x’.

4.4 Find the area of the triangle formed by joining the midpoints of the sides of the triangle whose vertices are (0,-1) , (2,1) & (0,3).Find the ratio of this area of the given triangle.

5.1 If A (4,-6), B(3, -2) & C (5,2) are the vertices of a ΔABC & AD is its median. Prove that median divides the ΔABC into two equal areas.