**Self-Assignment - 1**

**Topic: Coordinate Geometry**

**Class: 10th Max. Marks: 25**

**Answer all questions. Each question carries ½ mark 10 × ½ = 5M**

1. Find the distance between the points (a sin x, 0) and (0, a cos x)?
2. What is the other end point of the diameter of a circle, who’s centre is (1, 2) and one end point of the diameter is (3, 4)?
3. What is the slope of X – axis?
4. Find the midpoint of the line segment joining (sin² θ, sec² θ) and (cos² θ, tan² θ)?
5. If the point (x, y) lies in Q2, then in which quadrant the point (-x, y) lie?
6. Write the section formula?
7. What is the distance of the point (4, -5) from X – axis?
8. Determine ‘x’ so that 2 is the slope of the line passing the points (-2, 4) and (x, -2)?
9. Find the centroid of the triangle whose vertices are (3, 4), (-7, -2) and (10, -5)?
10. A(0, 3), B(k, 0) and AB = 5, find the positive value of ‘k’?

**Answer all questions. Each question carries 1 mark. 4 × 1 = 4M**

1. Find the radius of the circle whose centre is (3, 2) and passing through (-5, 6)?
2. If origin is the centroid of a triangle whose vertices are (3, 2), (-6, Y) and (3, -2) then find ‘y’?
3. Find slope of the Y – axis by taking two points on it?
4. Two consecutive vertices of a square are (0, 0) and (3, 4). Then find the area of the square?

**Answer all questions. Each question carries 2 marks. 4 × 2 = 8M**

1. Find the coordinates of the point which divides the join of (-1, 7) and (4, -3)in ratio 2 : 3?
2. Find the point on X – axis which is at equidistant from (2, -5) and (-2, 9)?
3. If the points A(6, 1), B(8, 2), C(9, 4) and D(p, 3) are the vertices of a parallelogram taken in order, then find the value of ‘p’?
4. Find the area of the triangle formed by A(0, 0), B(0, 3) and C(2, 0)?

**Answer all questions. Each question carries 4 marks. 2 × 4 = 8M**

1. Find the value of ‘k’ for which the points (8, 1), (k, -4) and (2, -5) are collinear?

Or

Verify (1, 7), (4, 2), (-1, 1) and (-4, 4) are the vertices of a square?

1. Find the coordinates of points which divides the line segment joining (-4, 0) and (0, 6) into four equal parts?

Or

Find the area of the triangle formed by (0, 0), (4, 0) and (0, 5) by using Heron’s formula?