Chapter 7

ASSIGNMENT

OBJECTIVE EXCERCISE - 7.1

1. The points (-a, -b), (0, 0), (a, b) and (a^2, ab) are

(A) Collinear (B) Vertices of a parallelogram

(C) Vertices of a rectangle (D) None of these

2. If the points (5, 1), (1, p) & (4, 2) are collinear then the value of p will be

(A) 1 (B) 5 (C) 2 (D) -2

3. Length of the median from B on AC where A(-1, 3), B(1, -1), (5, 1) is

(A) $\sqrt{18}$ (B) $\sqrt{10}$ (C) $2\sqrt{3}$ (D) 4

4. The points (0, -1), (-2, 3), (6, 7) and (8, 3) are -

(A) Collinear (B) Vertices of a parallelogram which is not a rectangle

(C) Verticals of a rectangle, which is not a square (D) None of these

5. If (3, -4) and (-6, 5) are the extremities of the diagonal of a parallelogram and (-2, 1) is third vertex, then its fourth vertex is -

(A) (-1, 0) (B) (0, -1) (C) (-1, 1) (D) None of these

6. The area of a triangle whose vertices are (a, c + a), (a, c) and (-a, c - a) are

(A) a^2 (B) b^2 (C) c^2 (D) $a^2 + c^2$

7. The are of the quadrilateral's the coordinates of whose verticals are (1, -2,) (6, 2), (5, 3) and (3, 4) are

(A) $\frac{9}{2}$ (B) 5 (C) $\frac{11}{2}$ (D) 11

SUBJECTIVE EXCERCISE - 7.2

1. Find the distance between the points :

(i) P (-6, 7) and Q(-1, -5).

(ii) $A(at_1^2, 2at_1)$ and $B(at_2^2, 2at_2)$.

2. If the point (x, y) is equidistant from the points (a + b, b - a) and (a - b, a + b), prove that bx = ay.

3. Find the value of x, if the distance between the points (x, -1) and (3, 2) is 5.

4. Show that the points (a, a), (-a, -a) and $-\sqrt{3a}, \sqrt{3a}$) are the vertices of an equilateral triangle.

5. Show that the points (1, 1), (-2, 7) and (3, -3) are collinear.

6. Prove that (2, -2), (-2, 1) and (5, 2) are the vertices of a right angled triangle. Find the area of the triangle and the length of the hypotenuse.

7. If A(-1, 3), B(1, -1) and C(5, 1) are the vertices of a triangle ABC, find the length of the median passing through the vertex A.

8. Show that the points A(1,2), B(5, 4), C(3, 8) and D(-1, 6) are the vertices of a square.

9. The abscissa of a point is twice its ordinate and the sum of the abscissa and the ordinate is -6. What are the coordinates of the point ?

10. If two vertices of triangle are (3, 7) an (-1, 5) and its centroid is (1, 3), find the coordinates of the third vertex.

11. If the mid point of the line-segment joining the points (-7, 14) and (K, 4) is (a, b), where 2a + 3b = 5, find the value of K.

12. Prove hat the points (a, 0), (0, b) and (1, 1) are collinear if $\frac{1}{a}+\frac{1}{b}=1$.

13. The co-ordinates of two points A & B are (3, 4) and (5, -2) respectively. Find the co-ordinate of point P if PA = PB, the area of $\Delta APB = 10$.

14. Four points A(6, 3), B(-3, 5) C(4, -2) and D(x, 3x) are given in such a way that $\frac{\text{Area }(\Delta DBC)}{\text{Area }(\Delta ABC)}=\frac{1}{2}$ find x.

15. Show that the points A(2, -2), B(14, 10), C(11, 13) and D(-1, 1) are the vertices of a rectangle.

[CBSE-2004]

16. Determine the ratio in which the point (-6, a) divides the join of A(-3, -1) and B(-8, 9). Also find the value of a.

[CBSE 2004]

17. Find a pint on X-axis which is equidistant from the points (7, 6) and (-3, 4).

[CBSE - 2005]

18. The line segment joining the points (3, -4) and (1, 2) is trisected at the pints P and Q. if the coordinates of P and Q are (p, -2) and (5/3,) respectively. Finds the value of p and q.

[CBSE 2005]

19. If A(-2, -1), B(a, 0), C(4, b) and D(1, 2) are the verities of a parallelogram, find the values of a and b.

[CBSE -2006]

20. The coordinates of one end point of a diameter of a circle are (4, -1) and the coordinates of the centre of the circle are (1, -3). Find the coordinates of the other end of the diameter.

[CBSE-2007]

21. The pint R divides the line segment AB, where A(-4, 0) and B(0, 6) are such that AR = $\frac{3}{4}$AB. Find the co-ordinates or R.

(CBSE - 2008)

22. For what value of k are the pints (1, 1), (3, k) and (-1, 4) collinear ?

[CBSE - 2008]

23. Find the area of the ΔABC with vertices A(-5, 7), B (-4, -5) and C(4, 5).

[CBSE - 2008]

24. If the point P(x,y) is equidistant from the points A(3,6) and B(-3,4) prove that 3x + y - 5 = 0.

[CBSE - 2008]

25. If A(4 -8), B(3,6) and C(5,- 4) are the vertices of a ΔABC, D is the mid-point of BC and is P is point on AD joined such that $\frac{AP}{PD} = 2$ find the coordinates of P.

[CBSE - 2008]