CLASS 10

## **COORDINATE GEOMETRY**

## **SECTION FORMULA**

## EXERCISE

- **Q.1** 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.
- **Q.2** Prove that the points (2a, 4a), (2a, 6a) and  $(2a + \sqrt{3}a, 5a)$  are the vertices of an equilateral triangle.
- **Q.3** Find the area of a triangle whose vertices are A(3, 2), B (11, 8) and C(8, 12).
- **Q.4** Prove that the area of triangle whose vertices are (t, t 2), (t + 2, t + 2) and (t + 3, t) is independent of t.
- **Q.5** Find the area of the triangle formed by joining the mid-point of the sides of the triangle whose vertices are (0, -1), (2, 1) and (0, 3). Find the ratio of area of the triangle formed to the area of the given triangle.
- Q.6 Find the area of the quadrilateral ABCD whose vertices are respectively A(1, 1), B(7, -3), C(12, 2) and D(7, 21).
- **Q.7** Prove that the points (2, -2), (-3, 8) and (-1, 4) are collinear.
- **Q.8** For what value of k are the points (k, 2 2k)(-k + 1, 2k) and (-4 k, 6 2k) are collinear ?
- Q.9 For what value of x will the points (x, -1),(2, 1) and (4, 5) lie on a line ?

## ANSWER KEY

- **3** 25 sq
- 5 Area of  $\triangle ABC = 4$  sq.
  - $\therefore$  Area of  $\triangle DEF$  : Area of  $\triangle ABC = 1 : 4$
- **6** 132 sq.
- 8 k = 1/2 or, k = -1.
- **9** x = 1