COORDINATE GEOMETRY

SECTION FORMULA

EXERCISE

Q.1 Find the coordinates of the point which divides the line segment joining the points (4, –3) and (8, 5) in the ratio 3 : 1 internally.

Q.2 In what ratio does the point (–4, 6) divide the line segment joining the points A(–6, 10) and B(3, –8)?

Q.3 Find the centroid of DABC whose vertices are A (2, – 3), B (4, 2) and C (– 3, – 2).

Q.4 The co-ordinates of one end of a diameter of a circle are (5 , –7) . If the co-ordinates of the center be (7 , 3) , the co-ordinates of the other end of the diameter are :

(A) (6 , –2) (B) (9 , 13)

(C) (–2 , 6) (D) (13 , 9)

Q.5 The point (11 , 10) divides the line segment joining the points (5 , –2) and (9 , 6) in the ratio :

(A) 1 : 3 internally (B) 1 : 3 externally

(C) 3 : 1 internally (D) 3 : 1 externally

Q.6 If A & B are the points (–3, 4) and (2, 1), then the co-ordinates of the point C on produced AB such that AC = 2 BC are :

(A) (2, 4) (B) (3, 7)

(C) (7, –2) (D) $\left(-\frac{1}{2},\frac{5}{2}\right)$

Q.7 If the three vertices of a parallelogram are (a + b, a – b), (2a + b, 2a – b) and (a – b, a + b), then the fourth vertex is :

(A) (– a, a) (B) (– a, – a)

(C) (– b, – b) (D) None

Q.8 The orthocenter of the triangle ABC is 'B' and the circumcenter is 'S' (a, b). If A is the origin then the co-ordinates of C are :

(A) (2a, 2b) (B) $\left(\frac{a}{2}, \frac{b}{2}\right)$

(C) $\left(\sqrt{a^2+b^2}, 0\right)$ (D) None

Q.9 Orthocenter of triangle with vertices (0, 0), (3, 4) and (4, 0) is :

(A) $\left(-3, \frac{3}{4}\right)$ (B) (3, 12)

(C) $\left(3, \frac{3}{4}\right)$ (D) (3, 9)

ANSWER KEY

1. (7, 3) is the required point.
2. The point (–4, 6) divides the line segment joining points A(–6, 10) and B(3, –8) in the ratio 2 : 7.
3. (1, – 1) is the centroid of DABC.
4. B
5. D
6. C
7. D
8. A
9. C