Board –CBSE	Class – 10th	Topic – Distance and Section Formula

Section A: MCQs (1 mark each)

1. The distance of the point (5, –5) from the origin is: (a) 10 (b) $\sqrt{50}$ (c) 5 (d) $\sqrt{25}$
2. The coordinates of the midpoint of the line joining (2, 3) and (4, 1) is: (a) (1, 2) (b) (3, 2) (c) (2, 4) (d) (3, 4)
3. If the distance between the points A(x, 3) and B(–1, 7) is 10, find x. (a) 5 or –7 (b) 6 or –8 (c) 7 or –5 (d) 8 or –6
4. The point which divides the line segment joining (4, –1) and (–2, 5) in the ratio 2:1 internally is: (a) (2, 1) (b) (0, 2) (c) (1, 2) (d) (–1, 2)
5. If the coordinates of P are (x, x), then its distance from the origin is: (a) x (b) $\sqrt{2x}$ (c) $x\sqrt{2}$ (d) 2x

Section B: Short Answer (2 marks each)

6. Find the distance between the points (7, –4) and (3, –1).
7. Find the coordinates of the point which divides the line joining (2, 3) and (6, 7) in the ratio 1:3.
8. Show that the triangle formed by the points (1, 1), (4, 4), and (1, 4) is a right-angled triangle.

Section C: Short Answer (3 marks each)

9. The coordinates of the midpoint of a line joining (x, 2) and (6, 4) is (4, 3). Find x.
10. Find the point on the y-axis which is equidistant from the points (3, 4) and (–2, 5).

Section D: Long Answer (4 marks each)

11. Show that the points (1, 2), (4, 6), and (7, 10) are collinear. Use distance formula.
12. Find the coordinates of the point which divides the line segment joining A(–6, 3) and B(6, –9) in the ratio 1:2 externally. Also find the length of AB.