| Board-CBSE | Class – 10th | Topic – Distance and Section Formula |
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## Section A: MCQs (1 mark each)

1. What is the distance between the points A(3, 4) and B(0, 0)? (a) 3 (b) 4 (c) 5 (d) $\sqrt{13}$
2. The point that divides the line segment joining (2, –3) and (4, 1) in the ratio 1:1 is: (a) (3, –1) (b) (2, –1) (c) (4, –2) (d) (3, –2)
3. The distance between the points (–2, 1) and (1, –3) is: (a) $\sqrt{13}$ (b) $\sqrt{25}$ (c) $\sqrt{20}$ (d) $\sqrt{10}$
4. What is the coordinate of the midpoint of the line segment joining (6, 2) and (2, –2)? (a) (4, 0) (b) (8, 0) (c) (2, 2) (d) (4, 2)
5. The distance between the points (x, 0) and (0, x) is: (a) x (b) $x\sqrt{2}$ (c) 2x (d) $x^2$

## Section B: Short Answer (2 marks each)

6. Find the length of the line segment joining A(1, 2) and B(4, 6).
7. Find the coordinates of the point that divides the line segment joining (5, –2) and (3, 6) in the ratio 3:1.
8. Show that the points (1, 2), (4, 6), and (7, 10) are collinear.

## Section C: Short Answer (3 marks each)

9. Find a point on the x-axis which is equidistant from the points (3, 4) and (–2, 5).
10. Find the ratio in which the point P(x, 2) divides the line joining A(2, 3) and B(6, –1), if x = 4.

## Section D: Long Answer (4 marks each)

11. Show that the points A(2, 3), B(–4, –1), and C(–2, –4) form a triangle. Also, find the type of triangle formed.
12. Find the coordinates of a point which divides the line segment joining (–1, 7) and (4, –3) in the ratio 2:3. Also, find its distance from the origin.