

Board – ICSE

Class – 09

Topic – Distance and Section Formula

1. Find the coordinates of points which divides the join of P (-1, 7) and Q (4, -3) in the ratio 2 : 3.
2. Find the point of bisection of the line segment AB, where A (-6, 11) and B (10, -3)
3. Find the coordinates of points which divides the join of X (-1, 7) and Y (4, -3) in the ratio 7 : 2.
4. Find the point of trisection of the line segment AB, where A (-6, 11) and B (10, -3).
5. Find the coordinates of points of trisection of the line segment joining the point (6, -9) and the origin.
6. If X, Y and Z divides the line segment PQ in four equal parts such that $PX = XY = YZ = ZQ$, and the coordinates of P and Q are (1, 6) and (3, -4) respectively then find the coordinates of X, Y and Z.
7. In what ratio is the line segment joining X (0, 3) and Y (4, -1) divided by the x-axis. Write the coordinates of the point where XY intersects the x-axis.
8. If the point (p, q) is the middle point of the line segment joining the points P (7, -4) and Q (-1, 2) then find p and q.
9. Let M (-3, 5) be the middle point of the line segment XY whose one end has the coordinates (0, 0). Find the coordinates of the other end.
10. In what ratio is the line segment joining X (2, -3) and Y (5, 6) divides by the x-axis? Also, find the coordinates of the point of division.
11. The coordinates of the midpoint of the line segment AB are (1, -2). The coordinate of A are (-3, 2). Find the coordinate of B.
12. Find the ratio in which the line segment PQ, where P (-5, 2) and Q (2, 3), is divided by the y-axis.
13. Find the ratio in which the point X (-6, h) divides the join of P (-4, 4) and Q (6, -1) and here hence find the value of h.
14. Find the ratio in which the line segment PQ, where P (4, -2) and Q (1, 3), is divided by the x-axis.
15. Find the point on the x-axis which is equidistant from the point (5, 4) and (-2, 3).
16. Find the point on the y-axis whose from (3, 2) and (-1, 3) and (-1, 3/2) are in the ratio 2 : 1.
17. If the distance of the point (a, b) from (-3, 0) are 4 each, find a and b.
18. Find a if the distance of the point (4, 1) from the point (3, a) is $\sqrt{10}$.
19. The point B has the coordinates (0, -4). Find the coordinates of the point A on the x-axis if the distance between A and B is 5 units
20. Find points on the x-axis, each of which is at a distance of 10 units from the point P(11, -8).
21. Find the point on the y-axis which is equidistant from the points A(-4, 3) and B(5, 2).

22. If the point A(a, 2) is equidistant from the points B(8, -2) and C(2, -2), find the value of a.
23. Find the ordinate of a point whose abscissa is 10 and which is at a distance of 10 units from the point P(2, -3).
24. Find all possible values of a for which the distance between the points A(a, -1) and B(5, 3) is 5 units.

Answers

1. (1, 3)
2. (2, 4)
3. (2, -3)
4. $\left(\frac{4}{3}, -\frac{4}{3}\right), \left(\frac{8}{3}, -\frac{8}{3}\right)$
5. (4, -6) and (2, -3)
6. X $\left(\frac{3}{2}, \frac{7}{2}\right)$, Y (2, 1) and Z $\left(\frac{5}{2}, -\frac{3}{2}\right)$
7. 3 ; 1; (3, 0)
8. p = 3, q = -1
9. (-6, 10)
10. 1 : 2; (3, 0)
11. (5, -6)
12. 5 : 2
13. 3 : 2; h = 2
14. 2 : 3
15. (2, 0)
16. (0, 8/3), (0, 0)
17. a = 0, b = $\pm \sqrt{7}$
18. 4, -2
19. A = (± 3 , 0)
20. (5, 0), (17, 0)
21. (0, -2)
22. a = 5
23. a = 8 or a = 2