

Mathematics

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(Chapter – 3) (Coordinate Geometry)(Exemplar Problems)

(Class – IX)

Exercise 3.4

Question 5:

Plot the points A (1, – 1) and B (4, 5)

- (i) Draw a line segment joining these points. Write the coordinates of a point on this line segment between the points A and B.
- (ii) Extend this line segment and write the coordinates of a point on this line which lies outside the line segment AB.

Answer 5:

In point A(1, –1), x-coordinate is positive and y-coordinate is negative. So it lies in IV quadrant. In point B(4, 5), both coordinates are positive, so it lies in I quadrant. On plotting these point, we get the following graph.

(i) On joining the points A and B, we get the line segment AB. Now to find the coordinates of a point on this line segment between A and B draw a perpendicular to X – axis from $x = 2$. [Since, $x = 2$ lies between A and B] say it intersect line segment AB at P. Now, draw a perpendicular to Y – axis from P, it intersects Y– axis at $y = 1$. Thus we get points (2, 1) which lie between line segment AB.

(ii) Extant the line segment AB. Now draw a perpendicular to X-axis from $x = 0$, say it intersects extended line segment at Q on Y– axis at $y = -3$. Thus, we get the point Q(0, – 7) which lies outside the line segment AB.

