

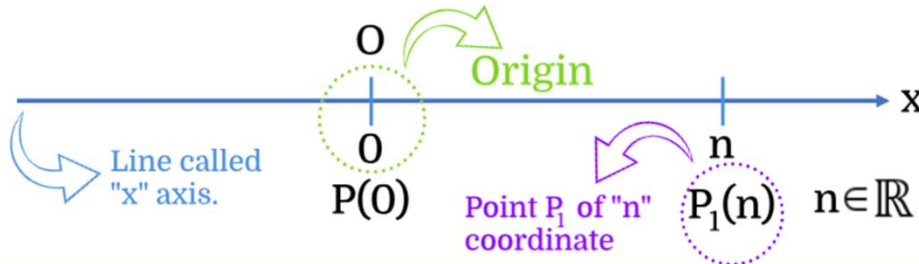
# ONE-DIMENSIONAL COORDINATE SYSTEM



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## ONE-DIMENSIONAL COORDINATE SYSTEM

It is the biunivocal correspondence (one-to-one) that exists between the geometric points of a line and the set of Real numbers (Lehmann, 1942).



YouTube



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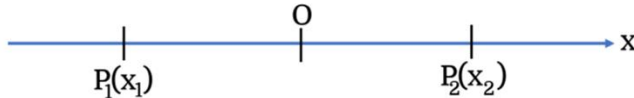
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## LENGTH OF A LINE-SEGMENT ( $\overline{AB}$ )

We then conclude that the distance between two points is obtained as the absolute value of the difference between their coordinates.

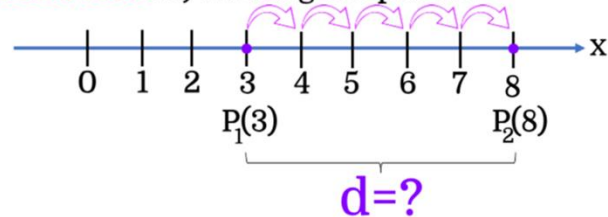


$$d = \overline{P_1P_2} = |x_2 - x_1|$$

$$d = \overline{P_2P_1} = |x_1 - x_2|$$

EXAMPLE: Find the distance between the points  $P_1(3)$ ,  $P_2(8)$ :

SOLUTION: 1) Plotting the points:



2) Substituting the coordinates in the formula:

$$d = \overline{P_1P_2} = |x_2 - x_1|$$

$$d = |8 - 3| = |5| = 5$$



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