Activity 10

Objective

To verify the distance formula by graphical method.

Material Required

Cardboard, chart paper, graph paper, glue, pen/pencil and ruler.

Method of Construction

1. Paste a chart paper on a cardboard of a convenient size.
2. Paste the graph paper on the chart paper.
3. Draw the axes X′OX and Y′OY on the graph paper [see Fig. 1].
4. Take two points A(a, b) and B(c,d) on the graph paper and join them to get a line segment AB [see Fig. 2].

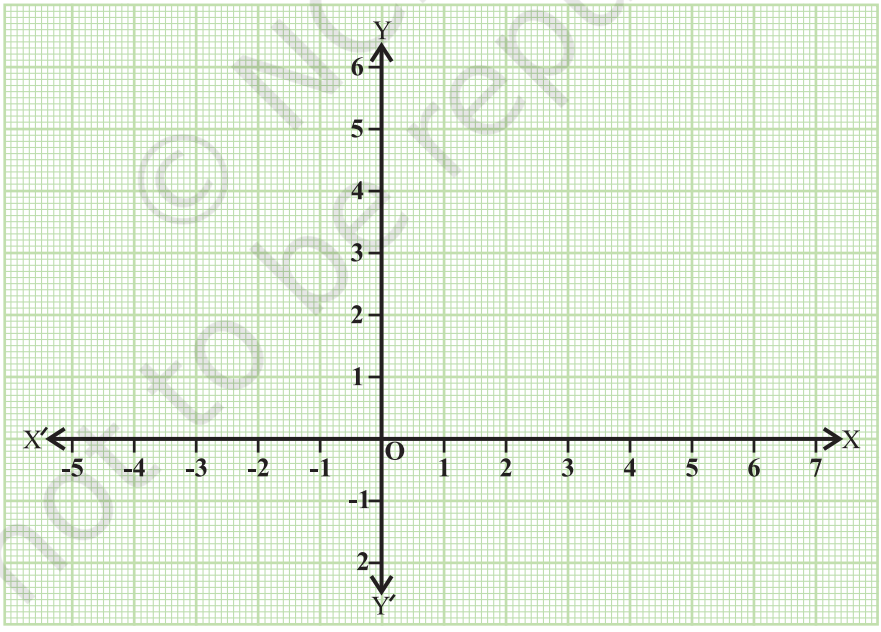

Fig. 1

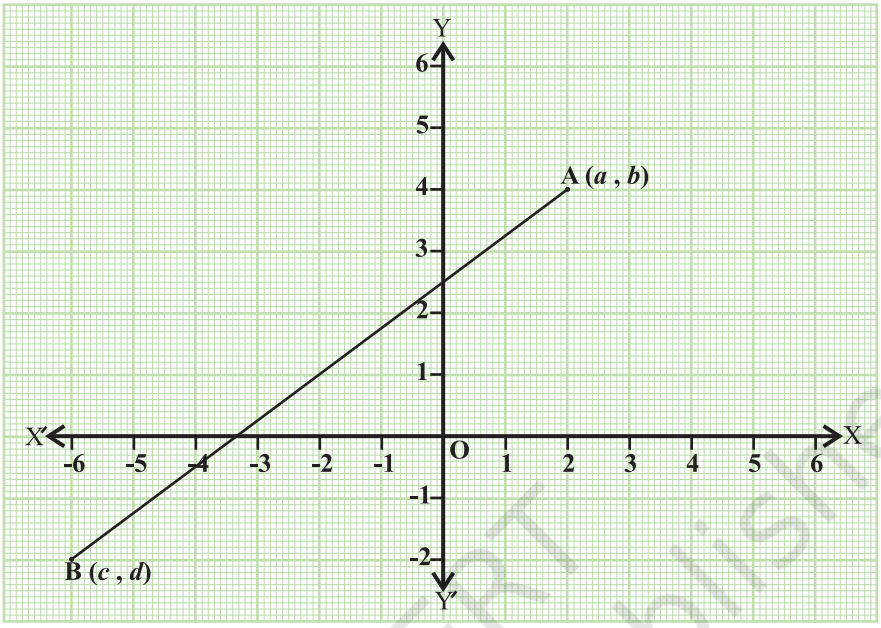

Fig. 2

Demonstration

1. Calculate the distance AB using distance formula.
2. Measure the distance between the two points A and B using a ruler.
3. The distance calculated by distance formula and distance measured by the ruler are the same.

Observation

1. Coordinates of the point A are _____.

   Coordinates of the point B are _____.
2. Distance AB, using distance formula is _____.
3. Actual distance AB measured by ruler is _____.
4. The distance calculated in (2) and actual distance measured in (3) are ____.

Application

The distance formula is used in proving a number of results in geometry.