RD Sharma Solutions
Class 8 Maths
Chapter 27
Ex 27.1

Q 1. Plot the points (5, 0), (5, 1), (5, 8). Do they lie on a line? What is your observation?

SOLUTION:

Take a point O on the graph paper and draw horizontal and vertical lines OX and OY respectively.

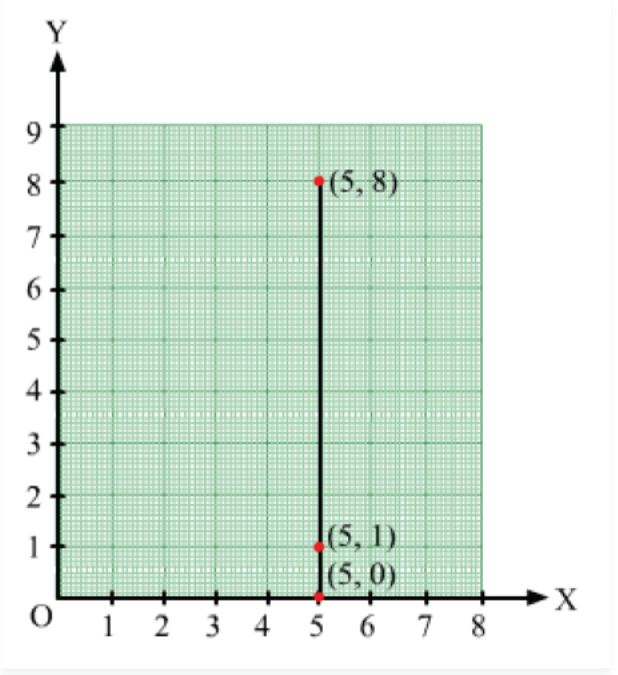
Then, let on the x-axis and y-axis 1 cm represents 1 unit.

In order to plot point (5, 0), we start from the origin O and move 5 cm along OX. The point we arrive at is point (5,0).

To plot point (5, 1), we move 5 cm along OX and 1 cm along OY. The point we arrive at is point (5,1).

To plot point (5,8), we move 5 cm along OX and 8 cm along OY. The point we arrive at is point (5,8).

From the graph below, it can be seen that the points lie on a line parallel to the y-axis. This is because they have the same x-coordinate.



Q 2. Plot the points (2, 8), (7, 8) and (12, 8). Join these points in pairs. Do they lie on a line? What do you observe?

SOLUTION:

Take a point O on the graph paper and draw the horizontal and vertical lines OX and OY respectively.

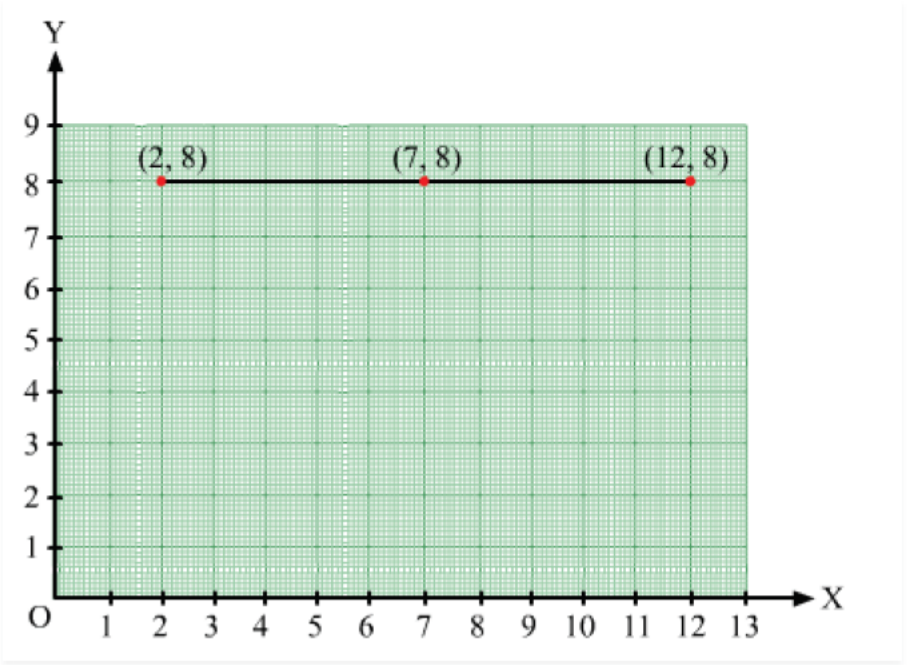
Then, let on the x-axis and y axis 1 cm represents 1 unit.

In order to plot point (2, 8), we start from the origin O and move 8 cm along OX. The point we arrive at is (2, 8).

To plot point (7, 8), we move 7 cm along OX and 8 cm along OY. The point we arrive at is (7, 8).

To plot point (12, 8), we move 12 cm along OX and 8 cm along OY. The point we arrive at is (12,8).

From the graph below, it can be seen that the points lie on a line parallel to x-axis because they have the same y-coordinate.



Q 3. Locate the points:

(i) (1, 1), (1, 2), (1, 3), (1, 4) (ii) (2, 1), (2, 2), (2, 3), (2, 4)

(iii) (1, 3), (2, 3), (3, 3), (4, 3) (iii) (1, 4), (2, 4), (3, 4), (4, 4)

SOLUTION:

(i) In order to plot these points, the given steps are to be followed:

Take a point O on a graph paper and draw horizontal and vertical lines OX and OY respectively.

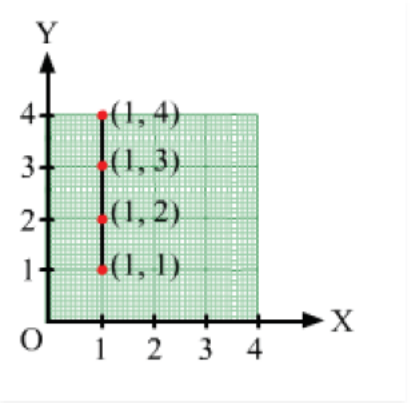
Then, let on x-axis and y-axis 1 cm represents 1 unit.

In order to plot point (1, 1), we start from the origin O and move 1 cm along OX and 1 cm along OY. The point we arrive at is (1, 1).

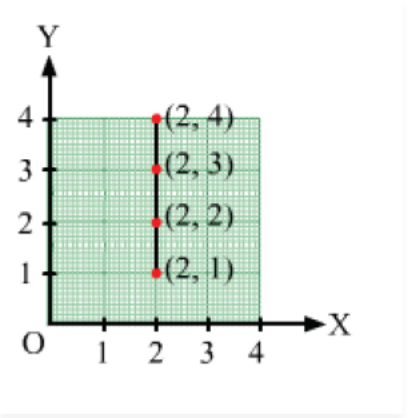
To plot point (1, 2), we move 1 cm along OX and 2 cm along OY. The point we arrive at is (1, 2).

To plot point (1, 3), we move 1 cm along OX and 3 cm along OY. The point we arrive at is (1, 3).

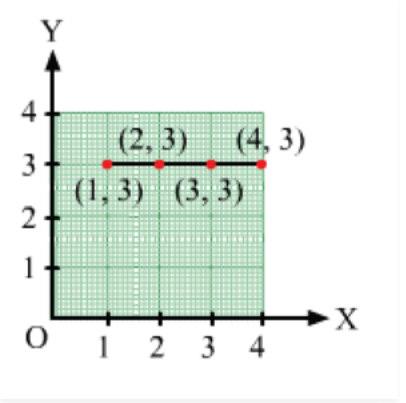
To plot point (1, 4), we move 1 cm along OX and 4 cm along OY. The point we arrive at is (1, 4).



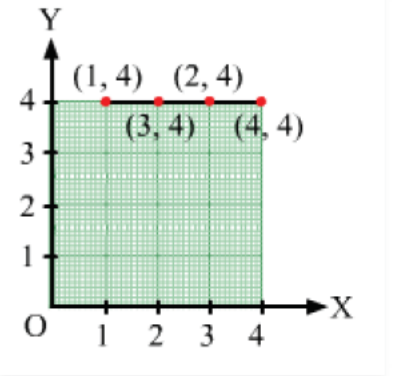
(ii) Follow the steps mentioned in point (i).



(iii) Follow the steps mentioned in point (i).



(iv) Follow the steps mentioned in point (i).



Q 4.Find the coordinates of points A, B, C, D in Fig. 27.7 :

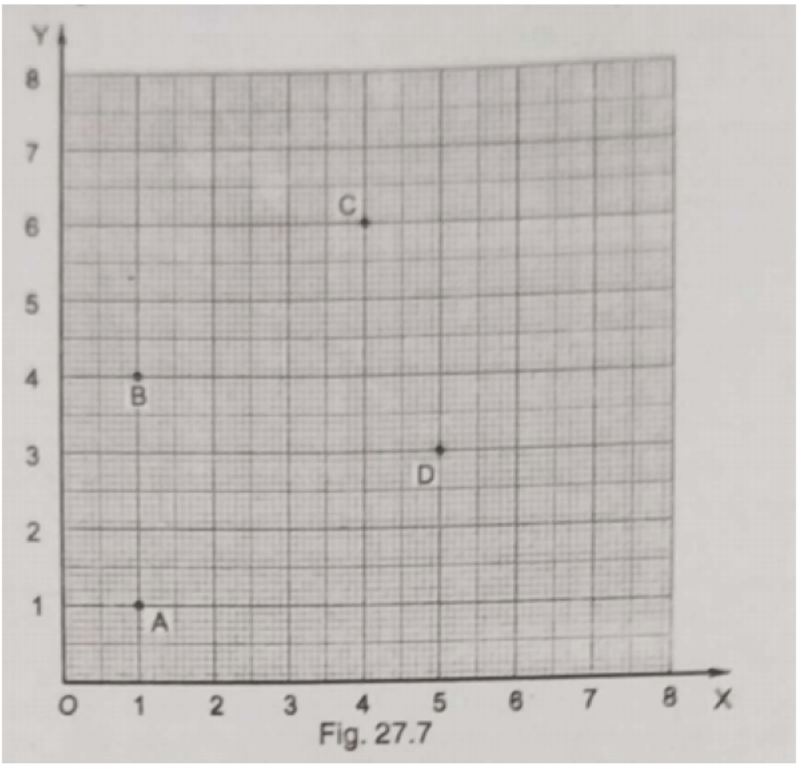
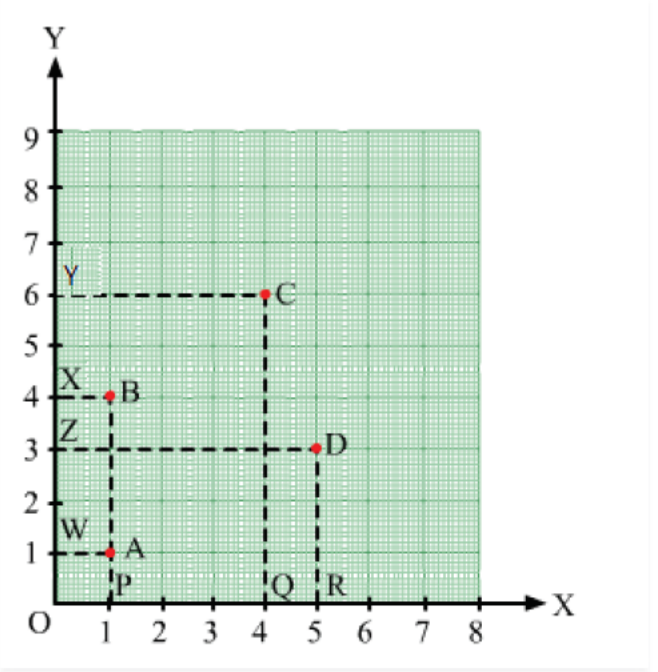


Fig. 27.7

SOLUTION:



Draw perpendiculars AP, BP, CQ and DR from A, B, C and D on the x-axis. Also, draw perpendiculars AW, BX, CY and DZ on the y-axis.

From the figure, we have:

AW = 1 unit and AP= 1 unit

So, the coordinates of vertex A are (1, 1).

Similarly, BX=1 unit and BP= 4 units

So, the coordinates of vertex B are (1, 4).

CY = 4 units and CQ= 6 units

So, the coordinates of vertex B are (4, 6).

DZ = 5 units and DR= 3 units

So, the coordinates of vertex B are (5, 3).