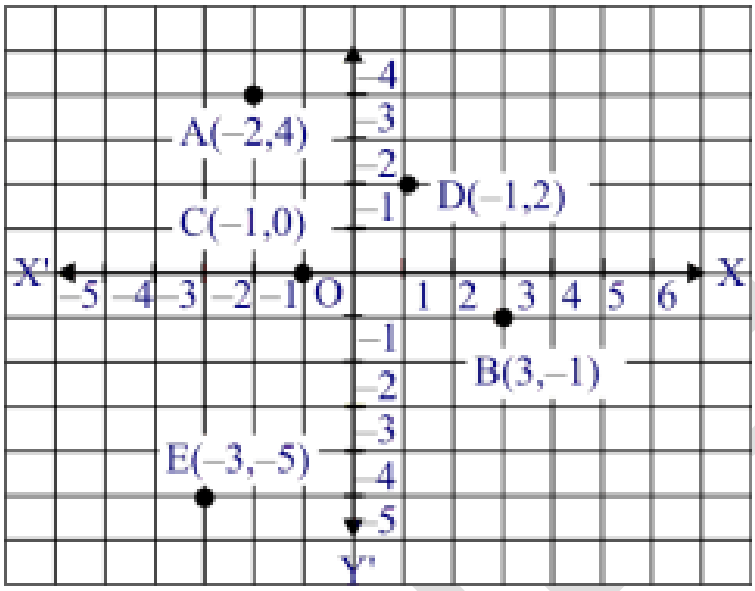
Coordinate Geometry: Exercise 3.3

Q.1 In which quadrant or on which axis do each of the points (−2, 4), (3, −1), (−1, 0), (1, 2) and (−3, −5) lie? Verify your answer by locating them on the Cartesian plane.

Sol.

(i) In given point (−2, 4), abscissa is negative and ordinate is positive. So, it lies in the 2nd quadrant.
(ii) In given point (3, −1), abscissa is positive and ordinate is negative. So, it lies in the 4th quadrant.
(iii) The given point (−1, 0) lies on the negative x-axis.
(iv) In given point (1,2) abscissa and ordinate are positive. So, it lies in the 1st quadrant.
(v) In given point (−3, −5) abscissa and ordinate are negative. So, it lies in the 3rd quadrant.

Now, we have to locate these points on the cartesian plane. Plot the points (−2, 4), (3, −1), (−1, 0), (1, 2) and (−3, − 5) as shown in figure.

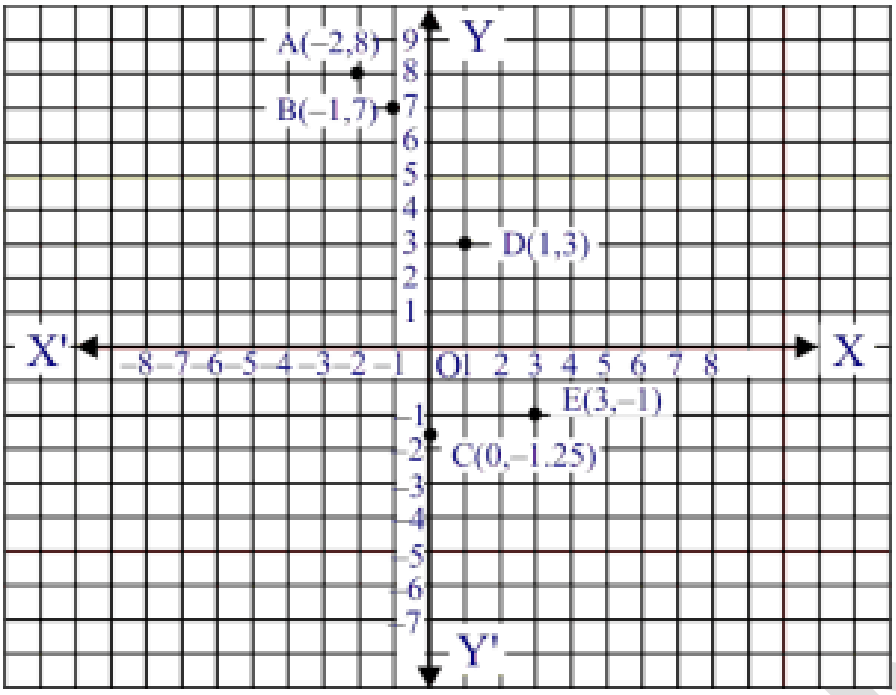


These points are respectively represented by the points A, B, C ,D and E. which clearly verify their location.

Q.2 Plot the points (x, y) given in the following table on the plane choosing suitable units of distance on the axes.

x	−2	−1	0	1	3
y	8	7	−1.25	3	−1

Sol. Draw the perpendicular lines X'OX and Y'OY as the coordinate axes and mark their point of intersection O as the origin (0, 0).



To plot the point (−2, 8), we need to take 2 units on OX' and then take 8 units parallel to line OY to obtain the point A (−2, 8).
Similarly, we plot the point B (−1, 7).
Now, to plot (0, −1.25), we need to take 1.25 units below x-axis on the y-axis to obtain point C (0, −1.25).
To plot (1, 3) we need to take 1 unit on OX and then take 3 units parallel to OY to obtain the point D (1, 3).
To plot (3, −1), we need to take 3 units on OX and then take 1 unit parallel to OY' to obtain the point E (3, −1).
Thus, we have plotted all the given points on Cartesian coordinate.