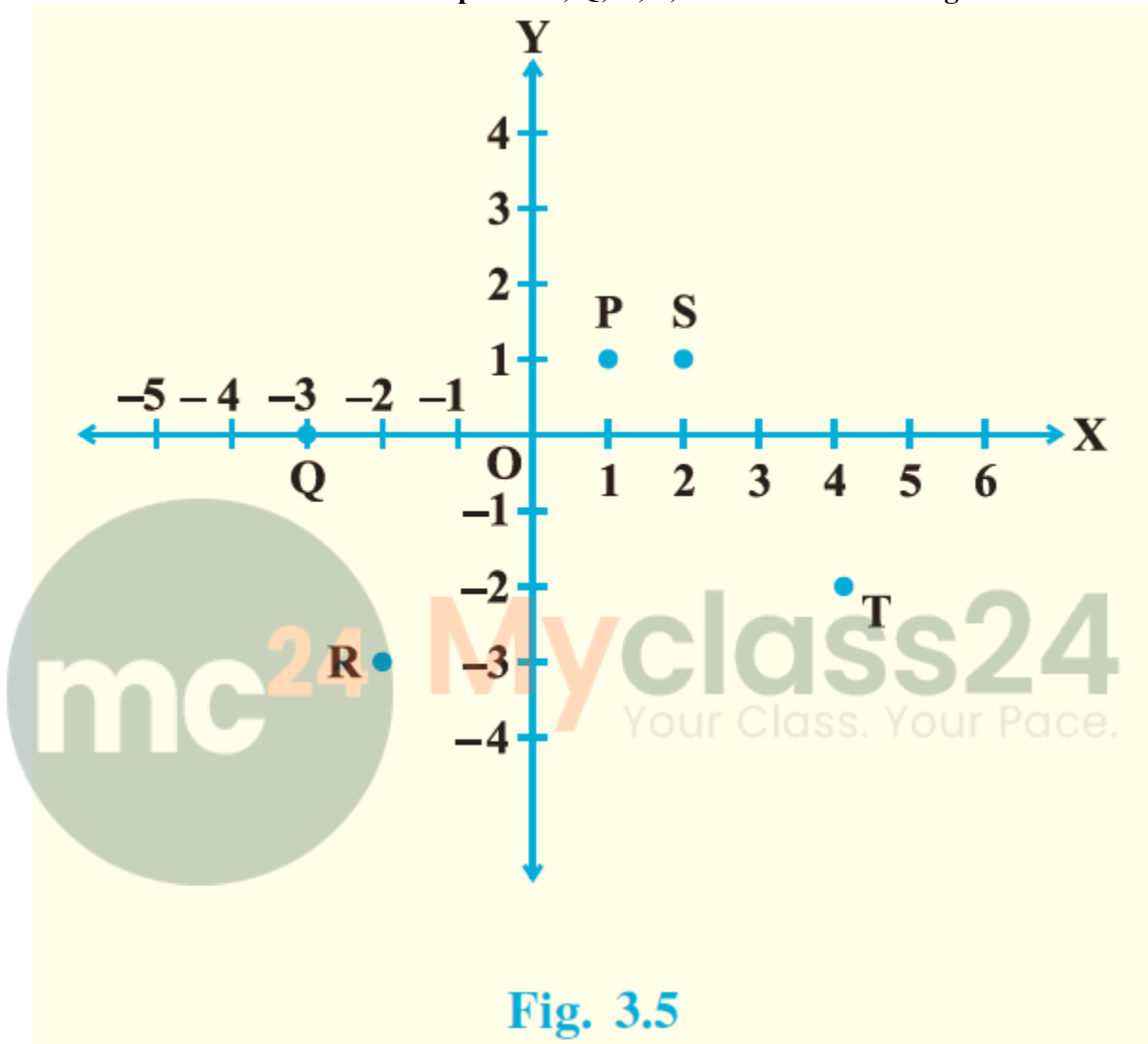


EXERCISE 3.3

1. Write the coordinates of each of the points P, Q, R, S, T and O from the Fig. 3.5.



Solution:

The coordinates of the points P, Q, R, S, T and O are as follows:

$$P = (1, 1)$$

$$Q = (-3, 0)$$

$$R = (-2, -3)$$

$$S = (2, 1)$$

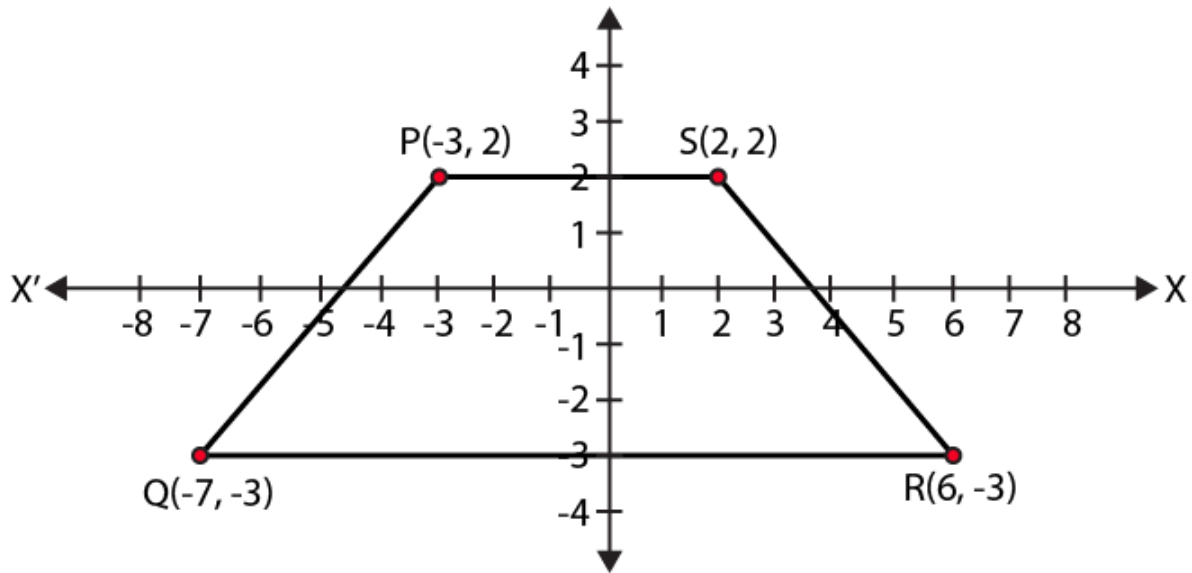
$$T = (4, -2)$$

$$O = (0, 0)$$

2. Plot the following points and write the name of the figure obtained by joining them in order:

P(-3, 2), Q(-7, -3), R(6, -3), S(2, 2)

Solution:

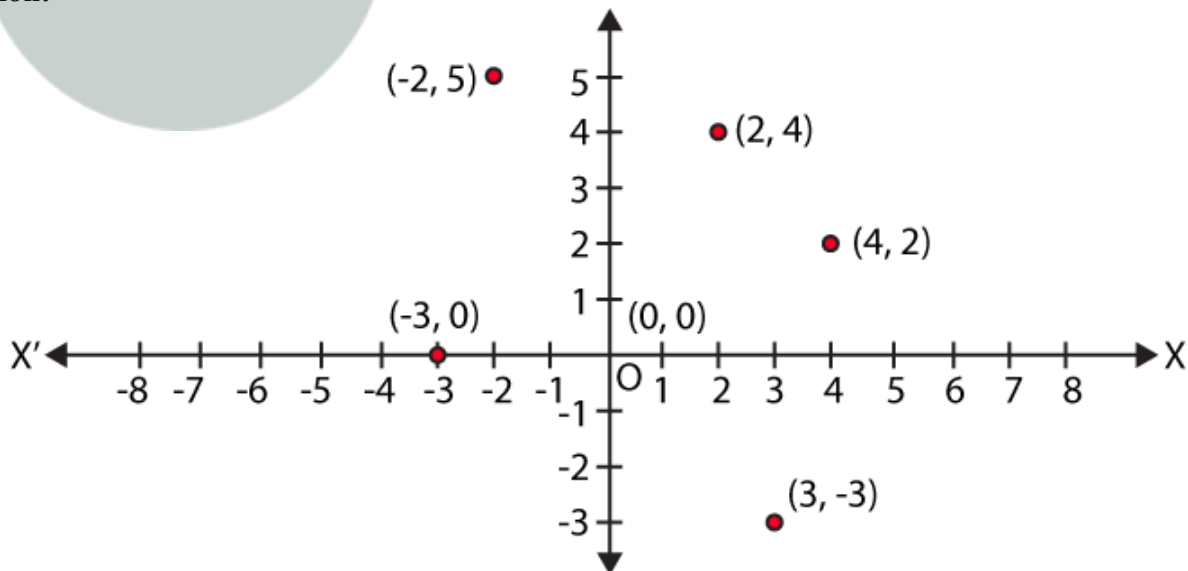


The figure obtained is a Trapezium.

3. Plot the points (x, y) given by the following table:

x	2	4	-3	-2	3	0
y	4	2	0	5	-3	0

Solution:



4. Plot the following points and check whether they are collinear or not:

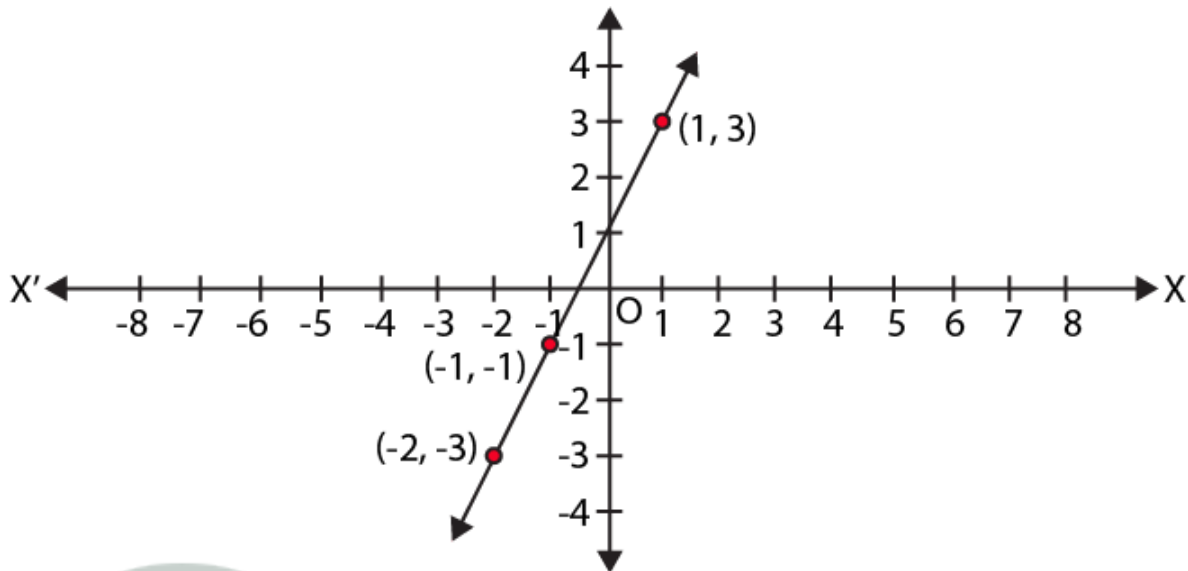
(i) $(1, 3)$, $(-1, -1)$, $(-2, -3)$

(ii) $(1, 1)$, $(2, -3)$, $(-1, -2)$

(iii) $(0, 0)$, $(2, 2)$, $(5, 5)$

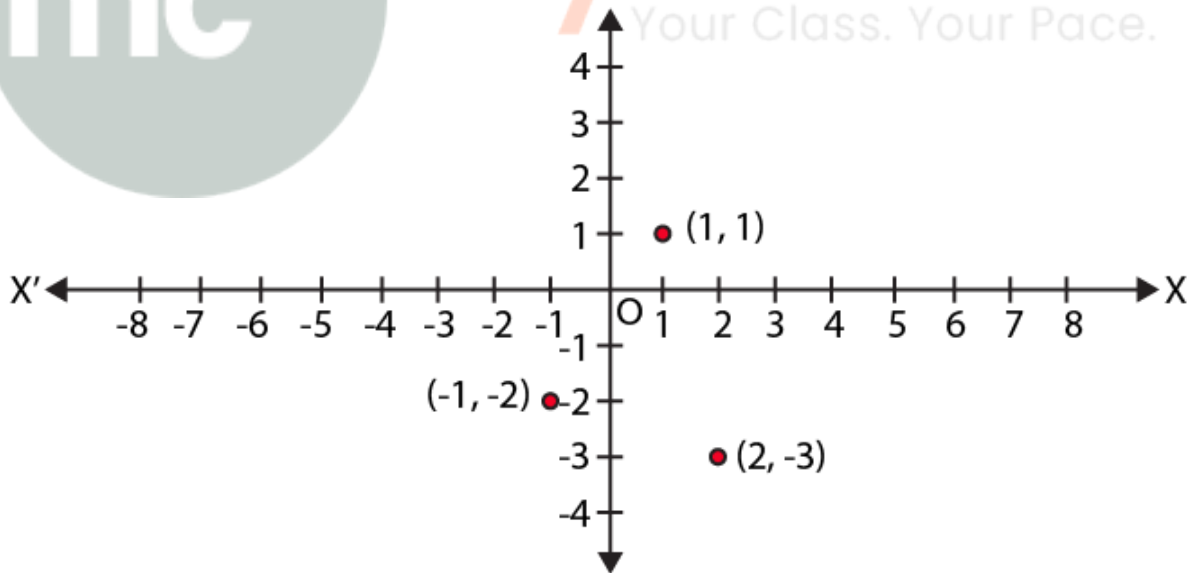
Solution:

(i)



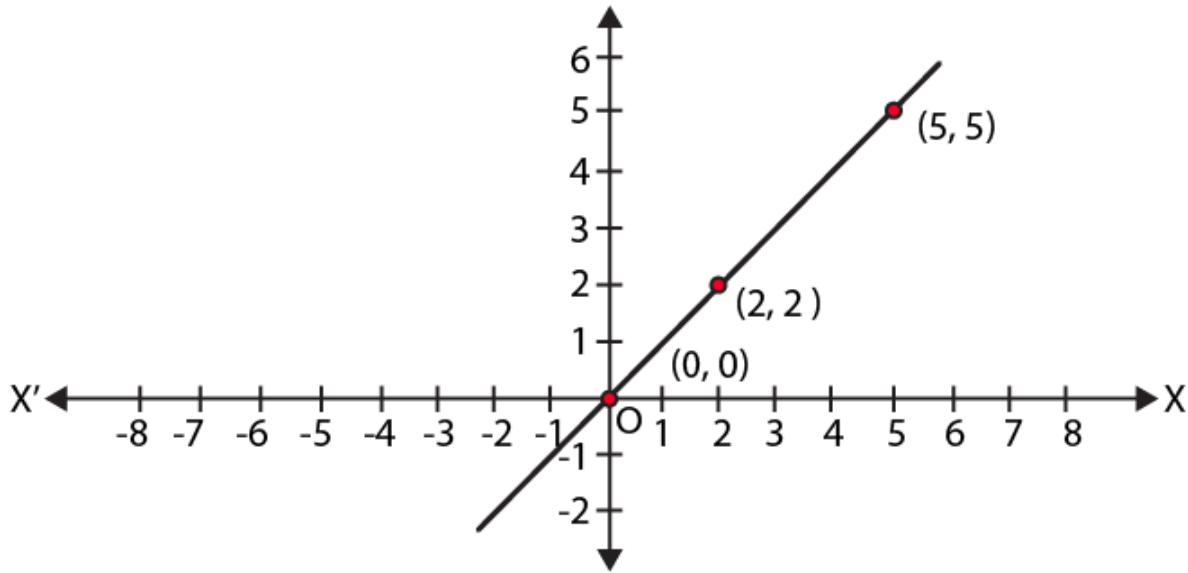
The points $(1, 3)$, $(-1, -1)$, $(-2, -3)$ lie in a straight line,
Hence, the points are collinear.

(ii)



The points $(1, 1)$, $(2, -3)$, $(-1, -2)$ lie in a straight line,
Hence, the points are not collinear.

(iii)



The points $(0, 0)$, $(2, 2)$, $(5, 5)$ lie in a straight line,
Hence, the points are collinear.

5. Without plotting the points indicate the quadrant in which they will lie, if

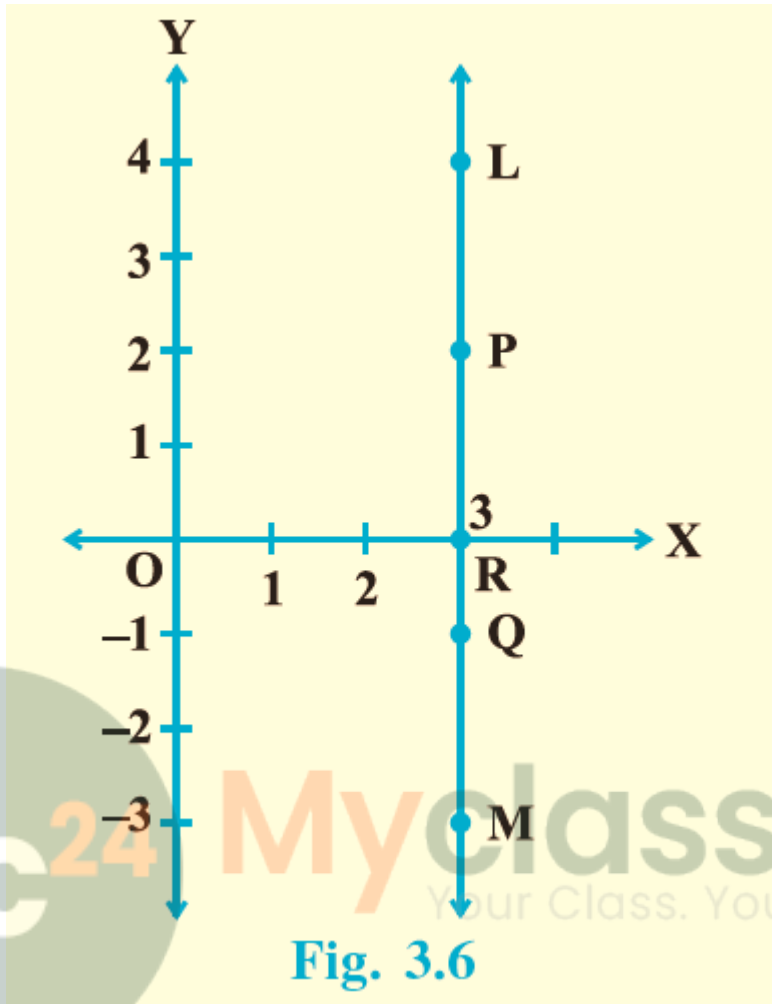
- (i) ordinate is 5 and abscissa is -3
- (ii) abscissa is -5 and ordinate is -3
- (iii) abscissa is -5 and ordinate is 3
- (iv) ordinate is 5 and abscissa is 3

Solution:

- (i) The point is $(-3,5)$.
Hence, the point lies in the II quadrant.
- (ii) The point is $(-5,-3)$.
Hence, the point lies in the III quadrant.
- (iii) The point is $(-5,3)$.
Hence, the point lies in the II quadrant.
- (iv) The point is $(3,5)$.
Hence, the point lies in the I quadrant.

6. In Fig. 3.6, LM is a line parallel to the y-axis at a distance of 3 units.

- (i) What are the coordinates of the points P, R and Q?
- (ii) What is the difference between the abscissa of the points L and M?



Solution:

- (i) The coordinates are:
P = (3,2)
R = (3,0)
Q = (3,-1)

- (ii) Since, all the points on the line have the same abscissa = 3.
The difference in abscissa of L and M = 0.