Exercise 26(B)

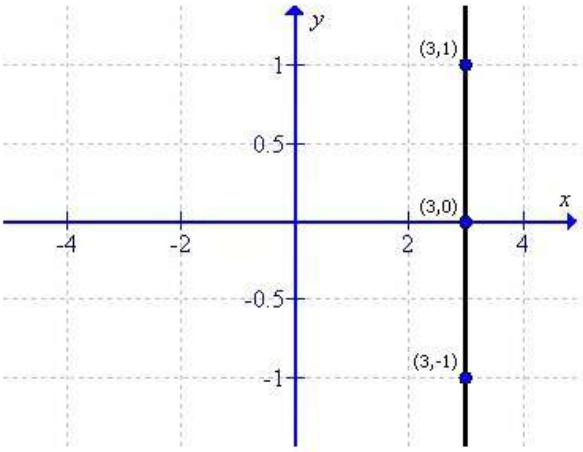
Solution 1:

(i) Since x = 3, therefore the value of y can be taken as any real no.

First prepare a table as follows:

x	3	3	3
y	-1	0	1

Thus the graph can be drawn as follows:

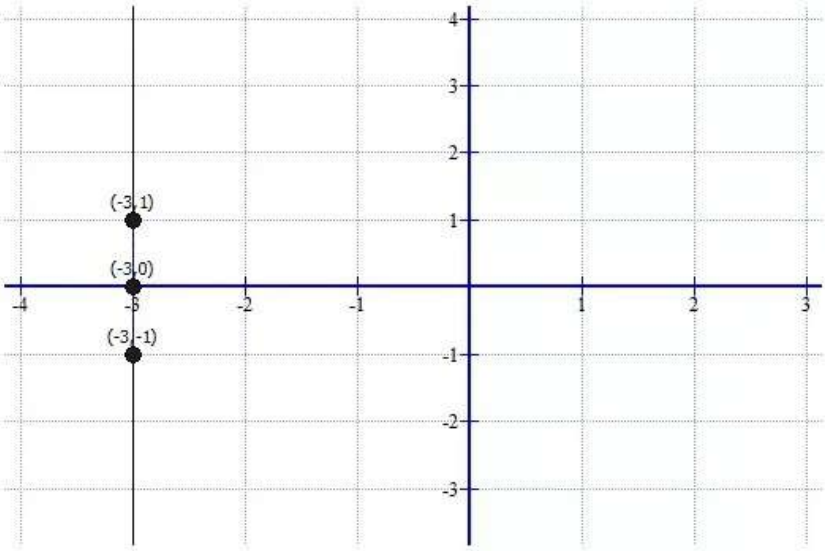


(ii)

First prepare a table as follows:

x	-3	-3	-3
y	-1	0	1

Thus the graph can be drawn as follows:

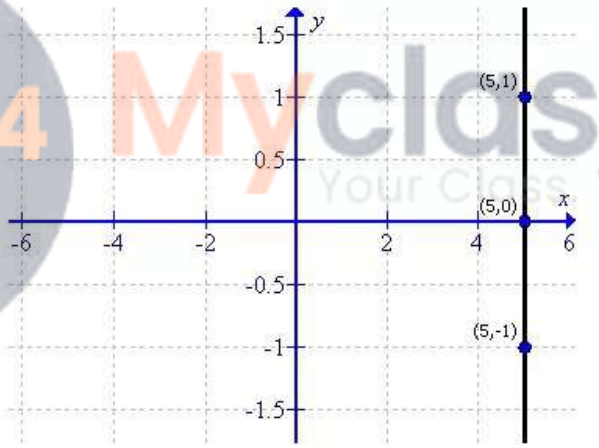


(iii)

First prepare a table as follows:

x	5	5	5
y	-1	0	1

Thus the graph can be drawn as follows:



(iv)

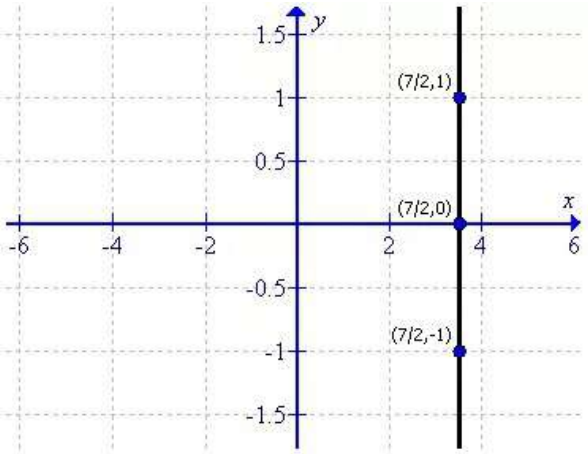
The equation can be written as:

$$x = \frac{7}{2}$$

First prepare a table as follows:

x	$\frac{7}{2}$	$\frac{7}{2}$	$\frac{7}{2}$
y	-1	0	1

Thus the graph can be drawn as follows:

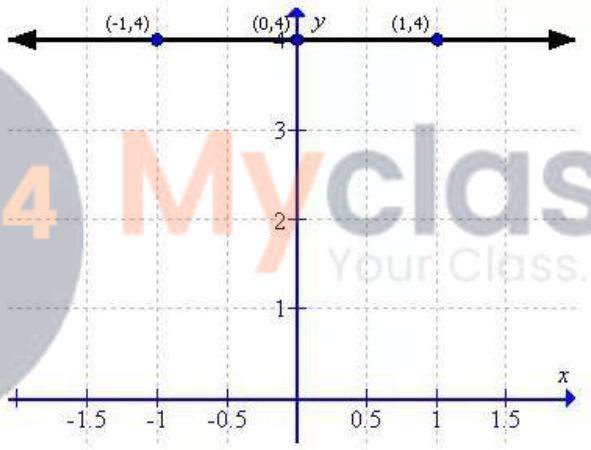


(v)

First prepare a table as follows:

x	-1	0	1
y	4	4	4

Thus the graph can be drawn as follows:

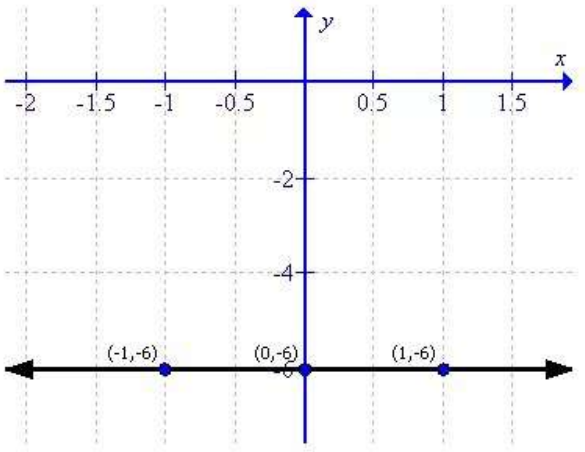


(vi)

First prepare a table as follows:

x	-1	0	1
y	-6	-6	-6

Thus the graph can be drawn as follows:

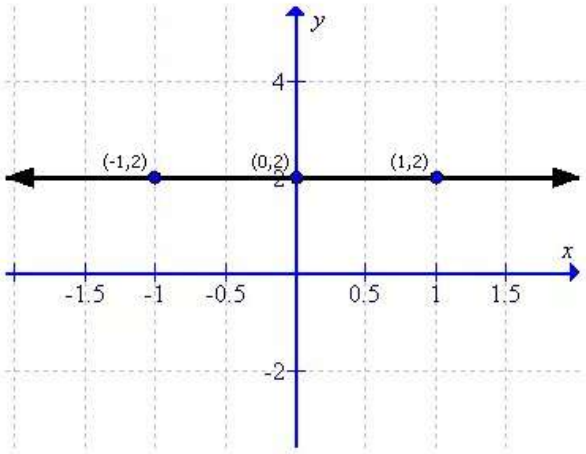


(vii)

First prepare a table as follows:

x	-1	0	1
y	2	2	2

Thus the graph can be drawn as follows:

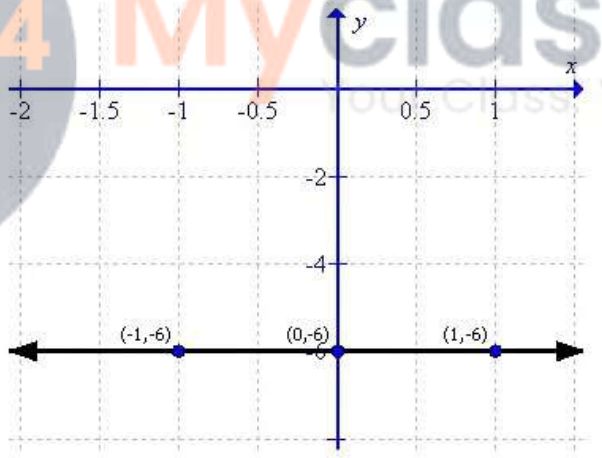


(viii)

First prepare a table as follows:

x	-1	0	1
y	-6	-6	-6

Thus the graph can be drawn as follows:

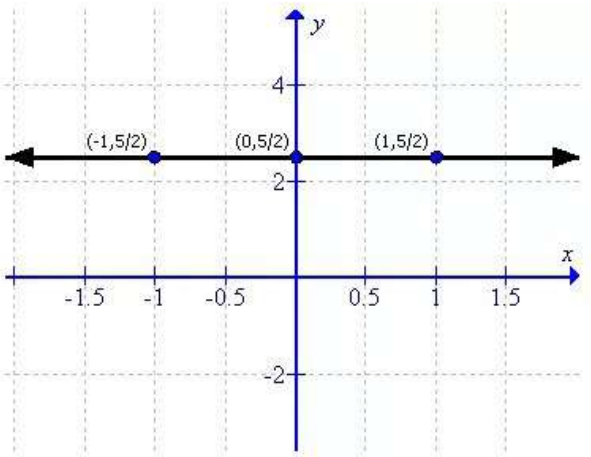


(ix)

First prepare a table as follows:

x	-1	0	1
y	$\frac{5}{2}$	$\frac{5}{2}$	$\frac{5}{2}$

Thus the graph can be drawn as follows:

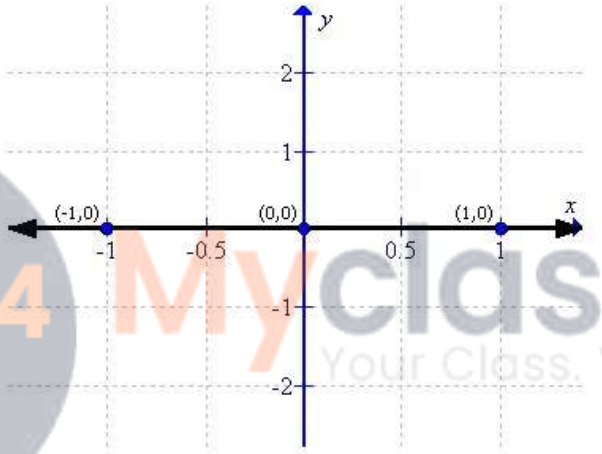


(x)

First prepare a table as follows:

x	-1	0	1
y	0	0	0

Thus the graph can be drawn as follows:

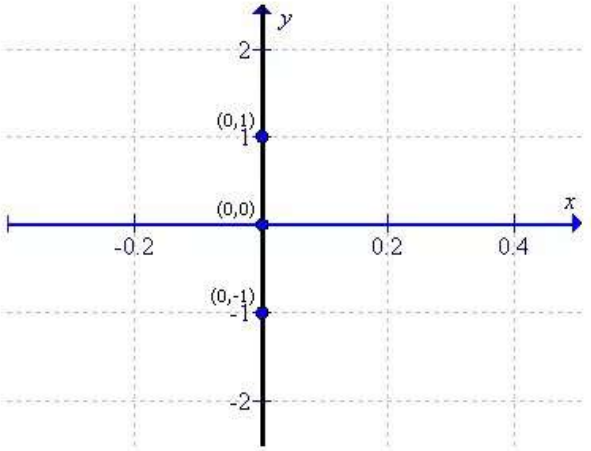


(xi)

First prepare a table as follows:

x	0	0	0
y	-1	0	1

Thus the graph can be drawn as follows:



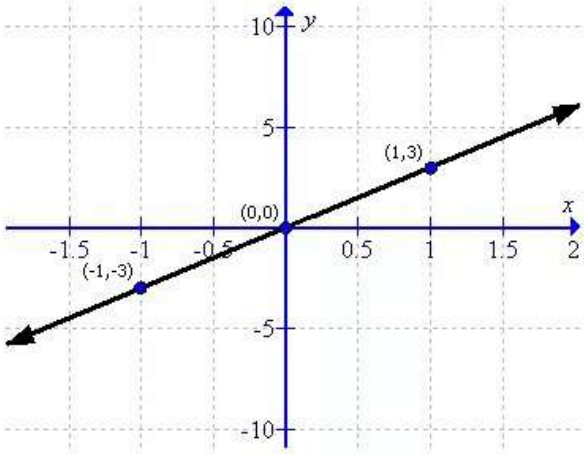
Solution 2:

(i)

First prepare a table as follows:

x	-1	0	1
y	-3	0	3

Thus the graph can be drawn as follows:

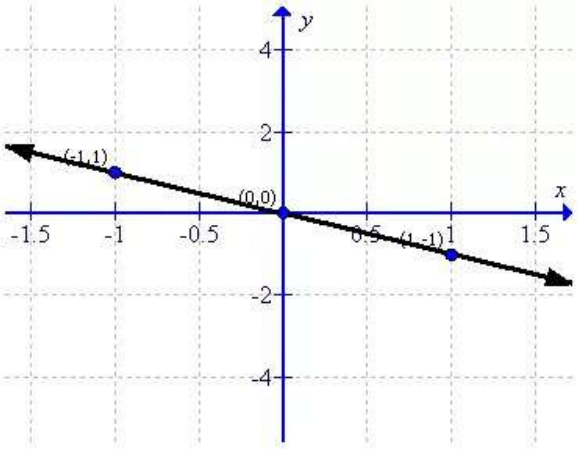


(ii)

First prepare a table as follows:

x	-1	0	1
y	1	0	-1

Thus the graph can be drawn as follows:

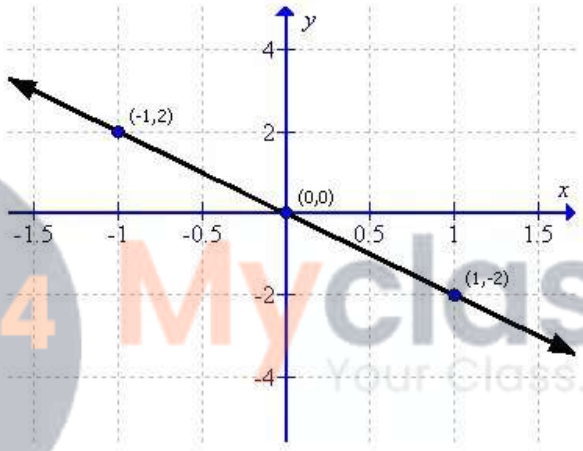


(iii)

First prepare a table as follows:

x	-1	0	1
y	2	0	-2

Thus the graph can be drawn as follows:

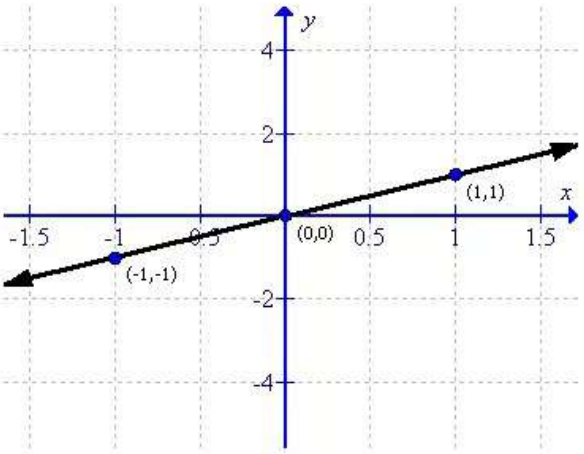


(iv)

First prepare a table as follows:

x	-1	0	1
y	-1	0	1

Thus the graph can be drawn as follows:

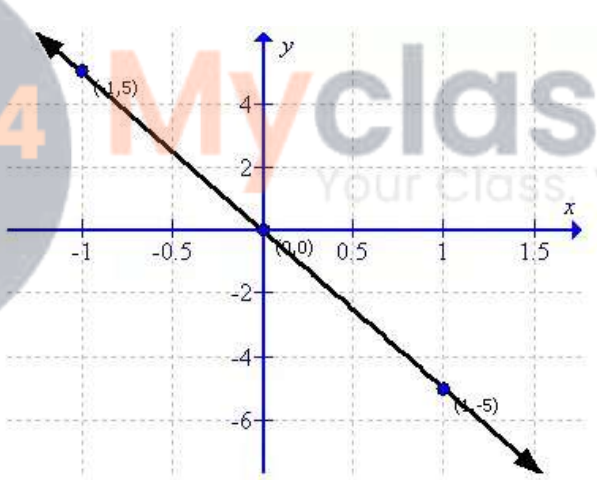


(v)

First prepare a table as follows:

x	-1	0	1
y	5	0	-5

Thus the graph can be drawn as follows:

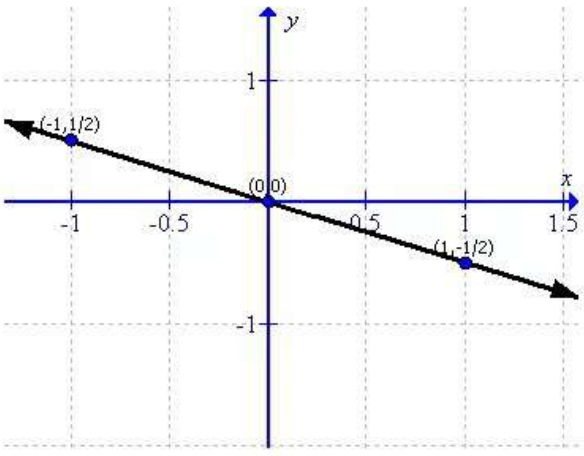


(vi)

First prepare a table as follows:

x	-1	0	1
y	$\frac{1}{2}$	0	$-\frac{1}{2}$

Thus the graph can be drawn as follows:

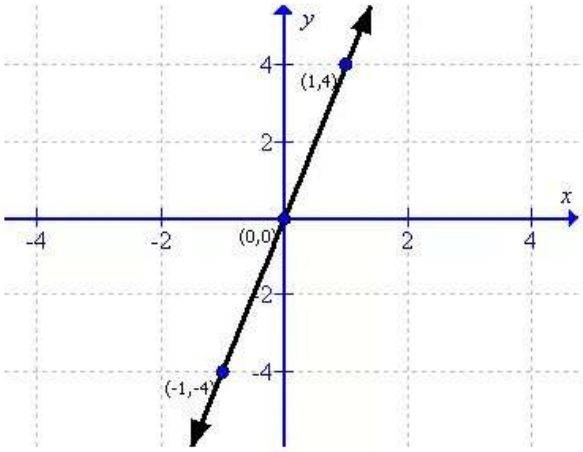


(vii)

First prepare a table as follows:

x	-1	0	1
y	-4	0	4

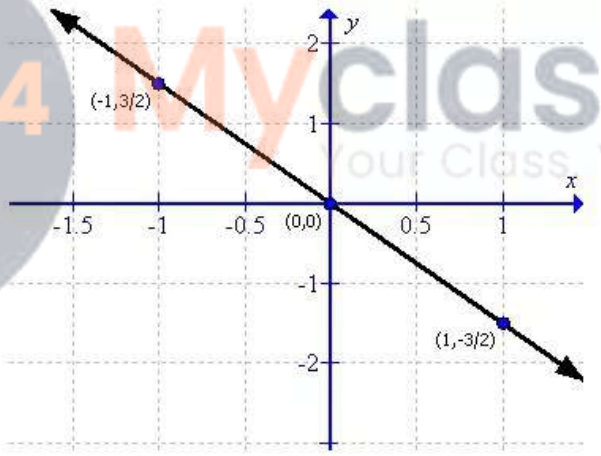
Thus the graph can be drawn as follows:



(viii)

First prepare a table as follows:

x	-1	0	1
y	$\frac{3}{2}$	0	$-\frac{3}{2}$

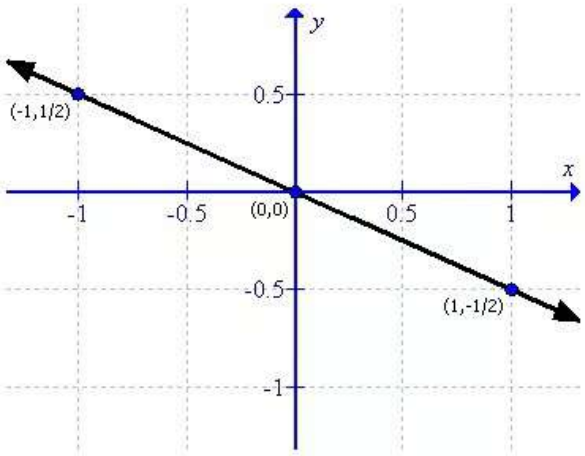


(ix)

First prepare a table as follows:

x	-1	0	1
y	$\frac{1}{2}$	0	$-\frac{1}{2}$

Thus the graph can be drawn as follows:



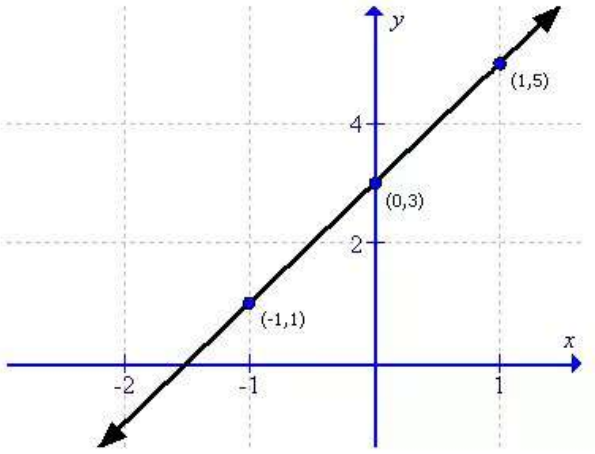
Solution 3:

(i)

First prepare a table as follows:

x	-1	0	1
y	$-\frac{5}{3}$	3	5

Thus the graph can be drawn as follows:

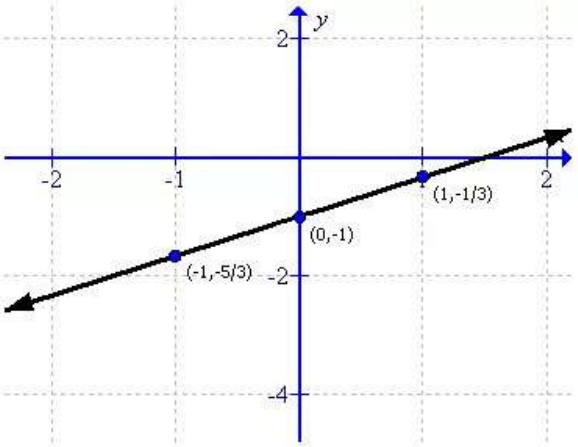


(ii)

First prepare a table as follows:

x	-1	0	1
y	$-\frac{5}{3}$	-1	$-\frac{1}{3}$

Thus the graph can be drawn as follows:

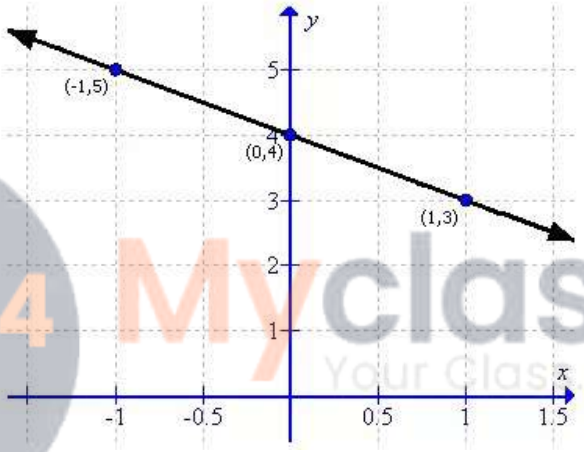


(iii)

First prepare a table as follows:

x	-1	0	1
y	5	4	3

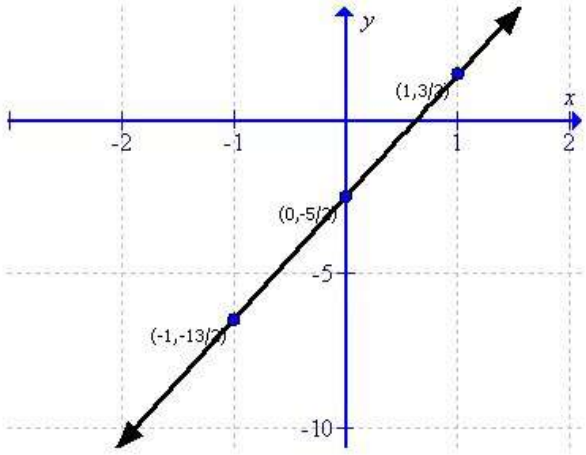
Thus the graph can be drawn as follows:



First prepare a table as follows:

x	-1	0	1
y	$-\frac{13}{2}$	$-\frac{5}{2}$	$\frac{3}{2}$

Thus the graph can be drawn as follows:

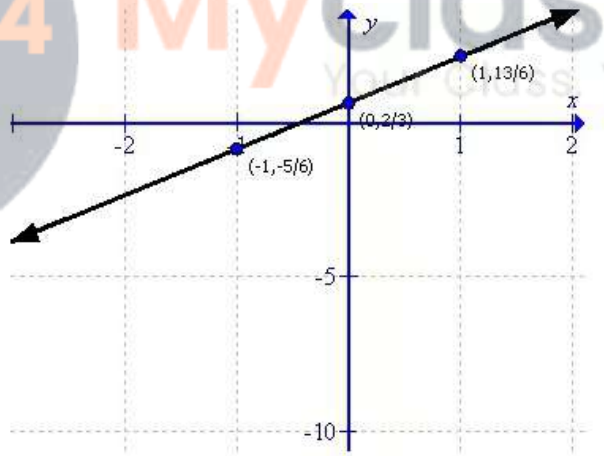


(v)

First prepare a table as follows:

x	-1	0	1
y	$-\frac{5}{6}$	$\frac{2}{3}$	$\frac{13}{6}$

Thus the graph can be drawn as follows:

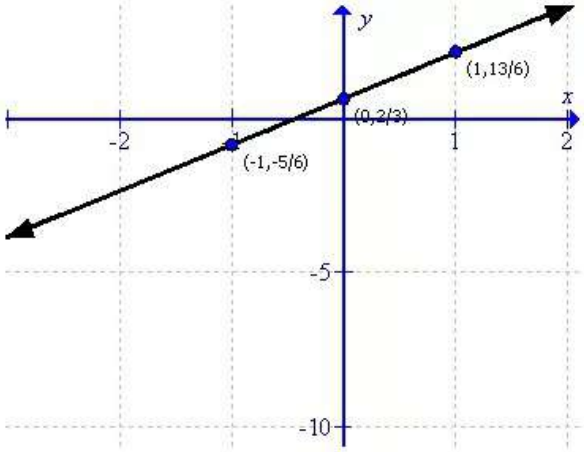


(vi)

First prepare a table as follows:

x	-1	0	1
y	-2	$-\frac{4}{3}$	$-\frac{2}{3}$

Thus the graph can be drawn as follows:

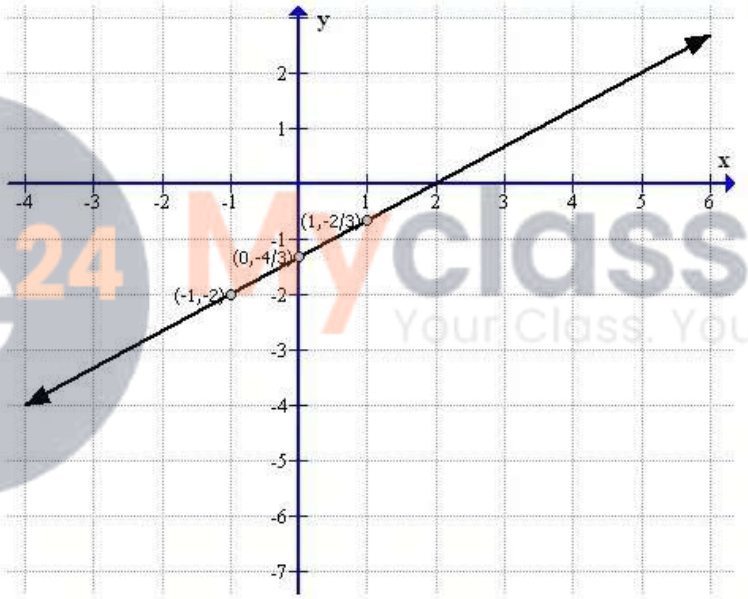


(vi)

First prepare a table as follows:

x	-1	0	1
y	-2	$-\frac{4}{3}$	$-\frac{2}{3}$

Thus the graph can be drawn as follows:



(vii)

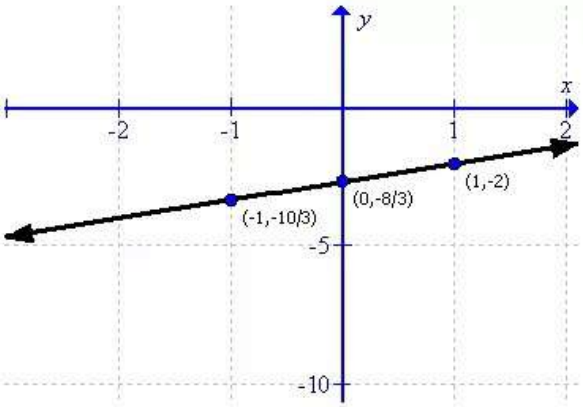
The equation will become:

$2x-3y=8$

First prepare a table as follows:

x	-1	0	1
y	$-\frac{10}{3}$	$-\frac{8}{3}$	-2

Thus the graph can be drawn as follows:



(viii)

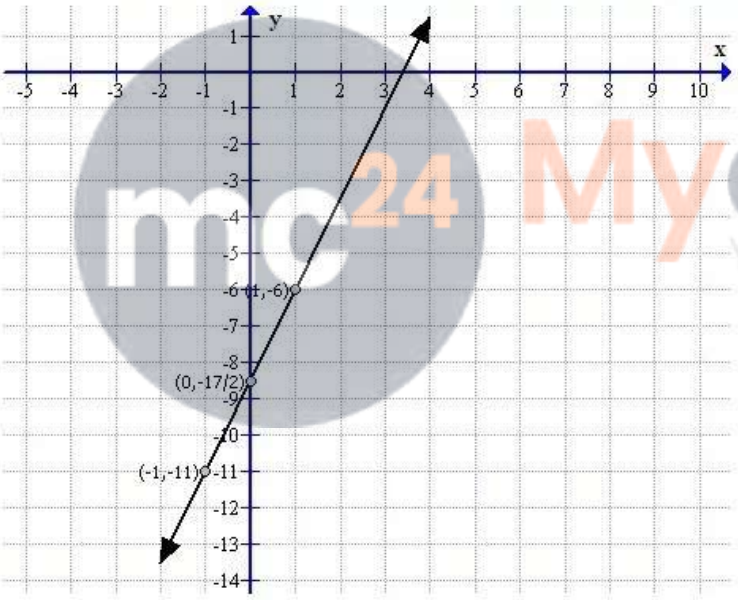
The equation will become:

$5x-2y=17$

First prepare a table as follows:

x	-1	0	1
y	-11	$-\frac{17}{2}$	-6

Thus the graph can be drawn as follows:

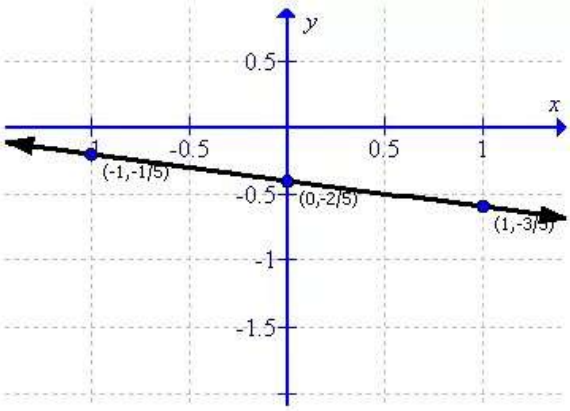


(ix)

First prepare a table as follows:

x	-1	0	1
y	$-\frac{1}{5}$	$-\frac{2}{5}$	$-\frac{3}{5}$

Thus the graph can be drawn as follows:



Solution 4:

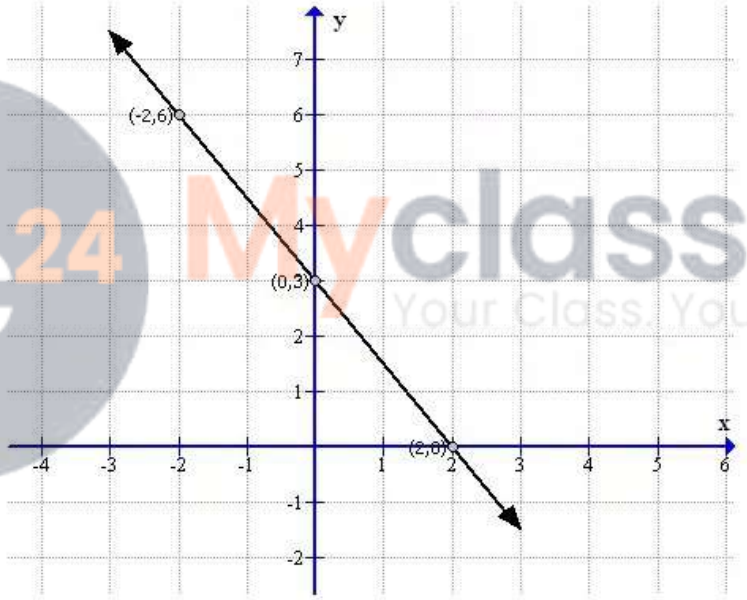
(i)

To draw the graph of 3x + 2y = 6 follows the steps:

First prepare a table as below:

X	-2	0	2
Y	6	3	0

Now sketch the graph as shown:



From the graph it can verify that the line intersect *x* axis at (2,0) and *y* at (0,3).

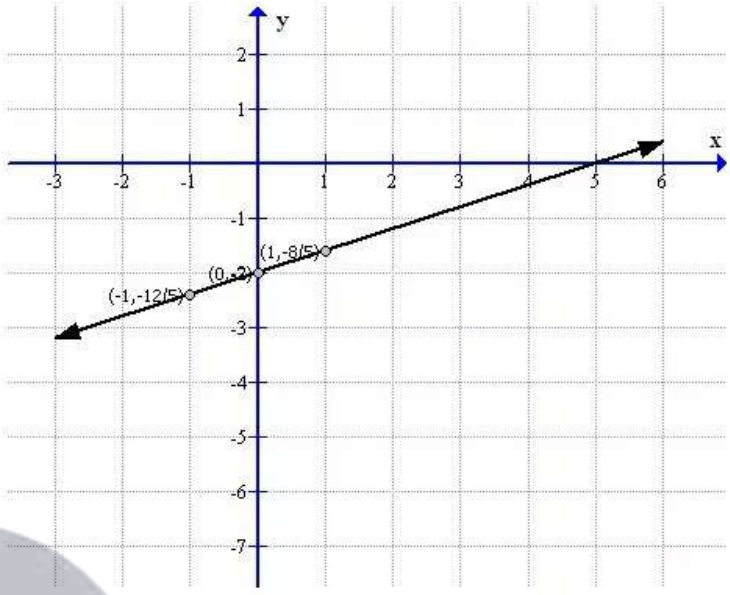
(ii)

To draw the graph of 2x - 5y = 10 follows the steps:

First prepare a table as below:

X	-1	0	1
Y	$-\frac{12}{5}$	-2	$-\frac{8}{5}$

Now sketch the graph as shown:



From the graph it can verify that the line intersect *x* axis at (5,0) and *y* at (0,-2).

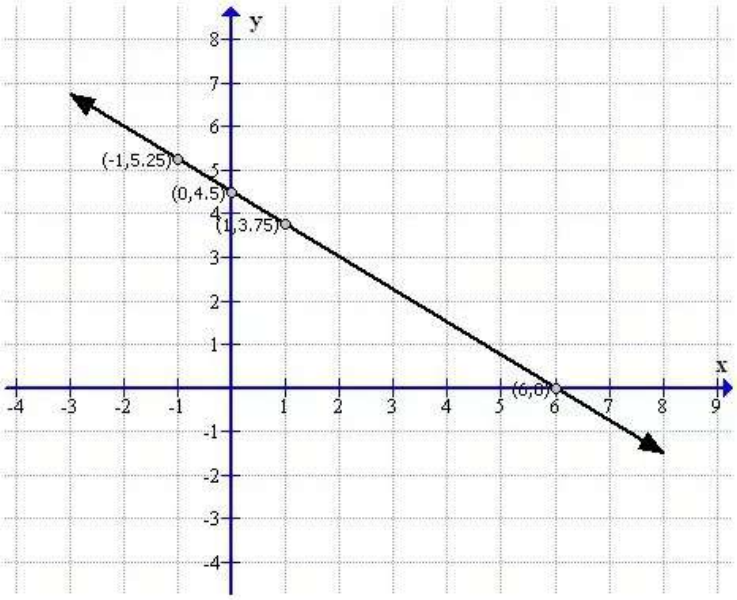
(iii)

To draw the graph of $\frac{x}{2}+\frac{2y}{3}=3$ follows the steps:

First prepare a table as below:

X	-1	0	1
Y	5.25	4.5	3.75

Now sketch the graph as shown:



From the graph it can verify that the line intersect *x* axis at (10,0) and *y* at (0,7.5).

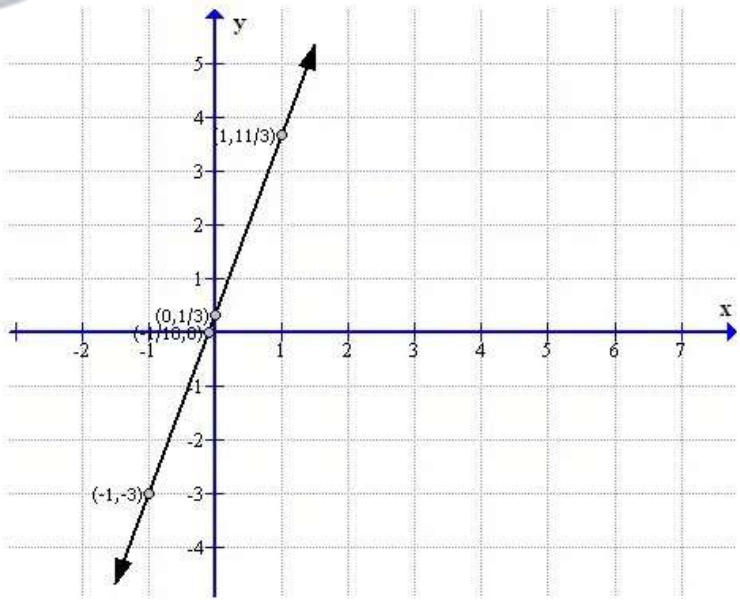
(iv)

To draw the graph of $\frac{2x-1}{3}-\frac{y-2}{5}=0$ follows the steps:

First prepare a table as below:

X	-1	0	1
Y	-3	$\frac{1}{3}$	$\frac{11}{3}$

Now sketch the graph as shown:

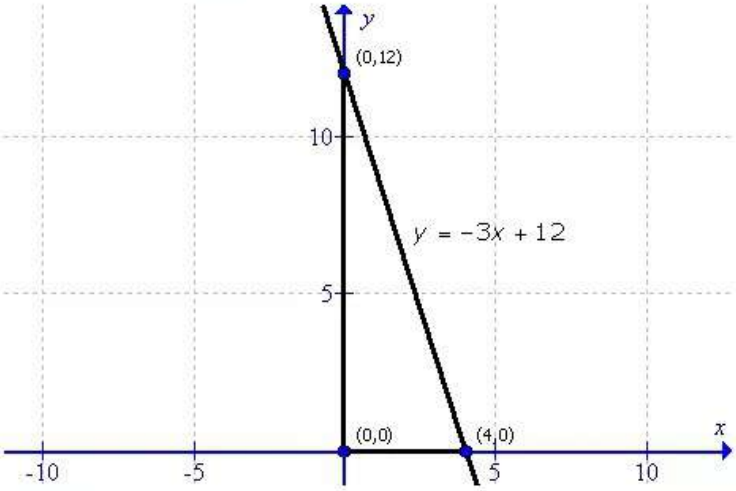


From the graph it can verify that the line intersect *x* axis at $\left(-\frac{1}{10},0\right)$ and *y* at (0,4.5).

Solution 5:

(i)

First draw the graph as follows:



This is an right trinangle.
Thus the area of the triangle will be:

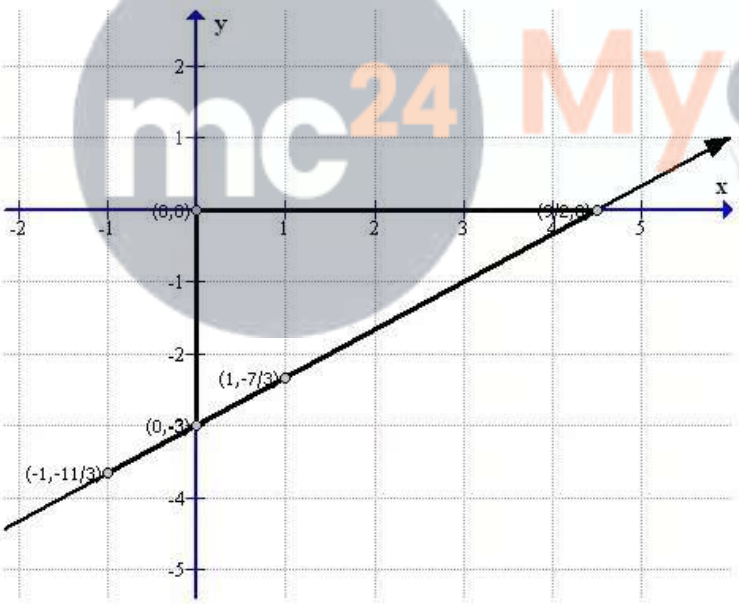
$$= \frac{1}{2} \times \text{base} \times \text{altitude}$$

$$= \frac{1}{2} \times 4 \times 12$$

$$= 24 \text{ sq.units}$$

(ii)

First draw the graph as follows:



This is a right triangle.
Thus the area of the triangle will be:

$$A = \frac{1}{2} \times \text{base} \times \text{altitude}$$

$$= \frac{1}{2} \times \frac{9}{2} \times 3$$

$$= \frac{27}{4} = 6.75 \text{ sq.units}$$

Solution 6:

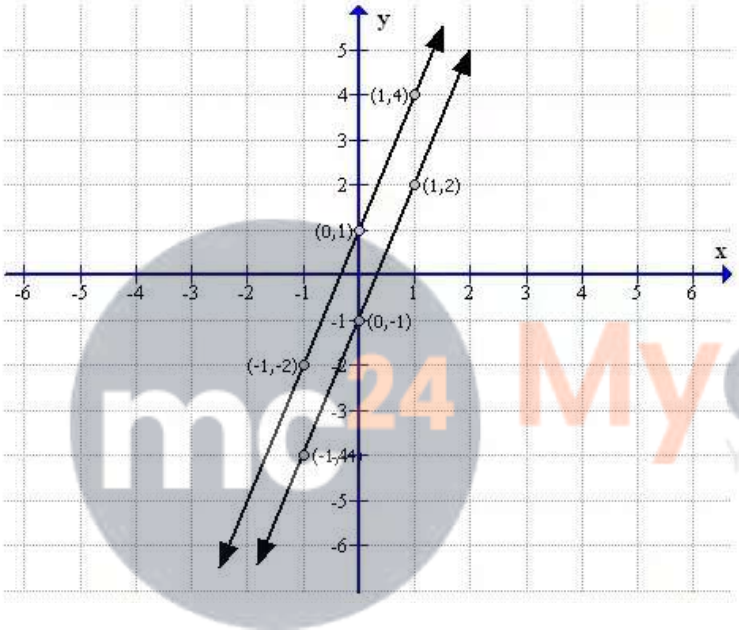
(i)

To draw the graph of y = 3x - 1 and y = 3x + 2 follows the steps:

First prepare a table as below:

X	-1	0	1
Y=3x-1	-4	-1	2
Y=3x+2	-1	2	5

Now sketch the graph as shown:



From the graph it can verify that the lines are parallel.

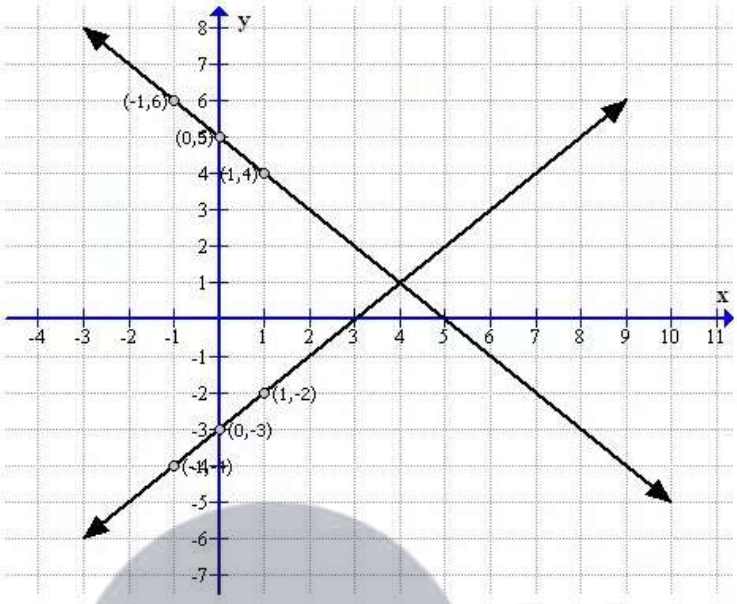
(ii)

To draw the graph of y = x - 3 and y = -x + 5 follows the steps:

First prepare a table as below:

X	-1	0	1
Y=x-3	-4	-3	-2
Y=-x+5	6	5	4

Now sketch the graph as shown:



From the graph it can verify that the lines are perpendicular.

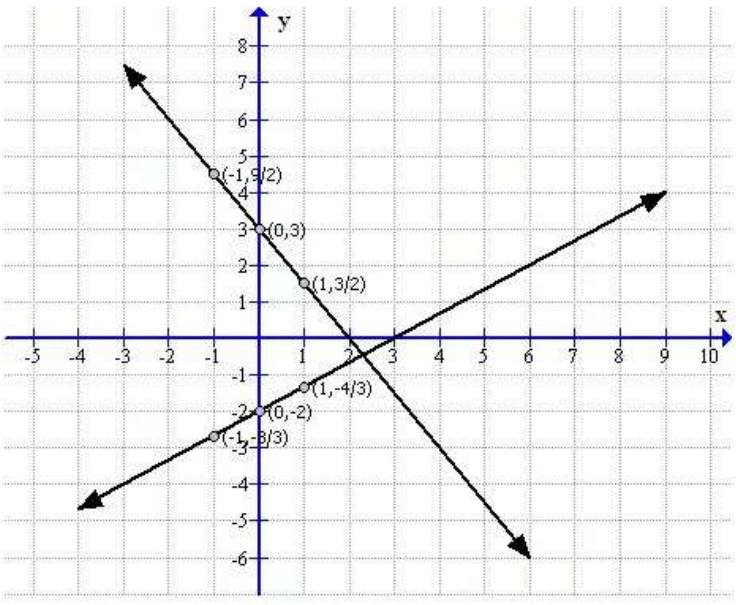
(iii)

To draw the graph of 2x - 3y = 6 and $\frac{x}{2}+\frac{y}{3}=1$ follows the steps:

First prepare a table as below:

X	-1	0	1
$y=\frac{2}{3}x-2$	$-\frac{8}{3}$	-2	$-\frac{4}{3}$
$y=-\frac{3}{2}x+3$	$\frac{9}{2}$	3	$\frac{3}{2}$

Now sketch the graph as shown:



From the graph it can verify that the lines are perpendicular.

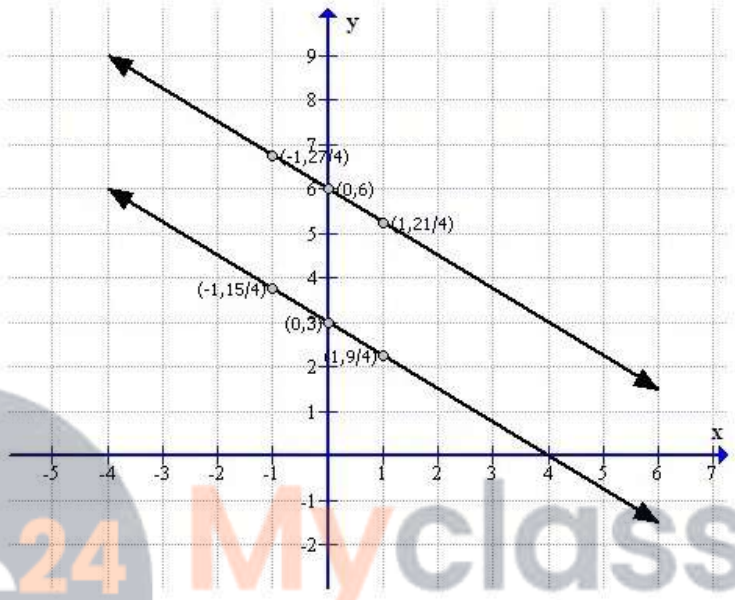
(iv)

To draw the graph of $3x + 4y = 24$ and $\frac{x}{4} + \frac{y}{3} = 1$ follows the steps:

First prepare a table as below:

X	-1	0	1
$y = -\frac{3}{4}x + 6$	$\frac{27}{4}$	6	$\frac{21}{4}$
$y = -\frac{3}{4}x + 3$	$\frac{15}{4}$	3	$\frac{9}{4}$

Now sketch the graph as shown:



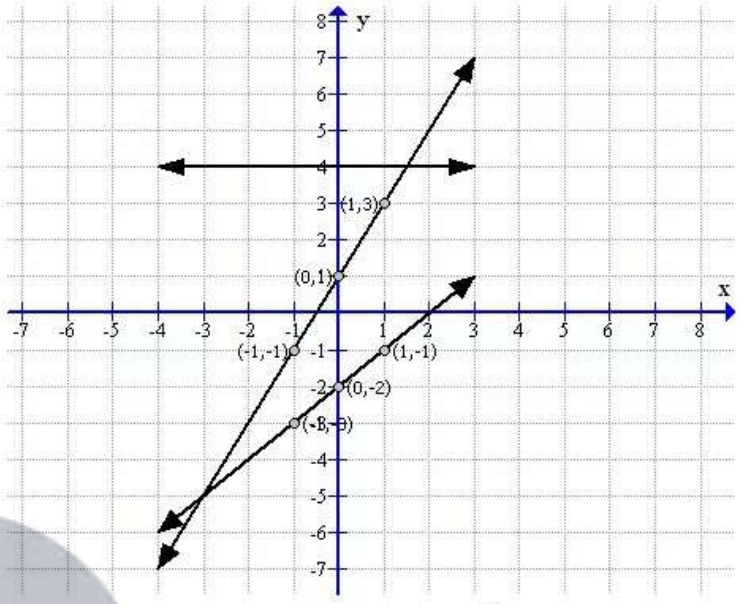
From the graph it can verify that the lines are parallel.

Solution 7:

First prepare a table as follows:

X	-1	0	1
Y=x-2	-3	-2	-1
Y=2x+1	-1	1	3
Y=4	4	4	4

Now the graph can be drawn as follows:

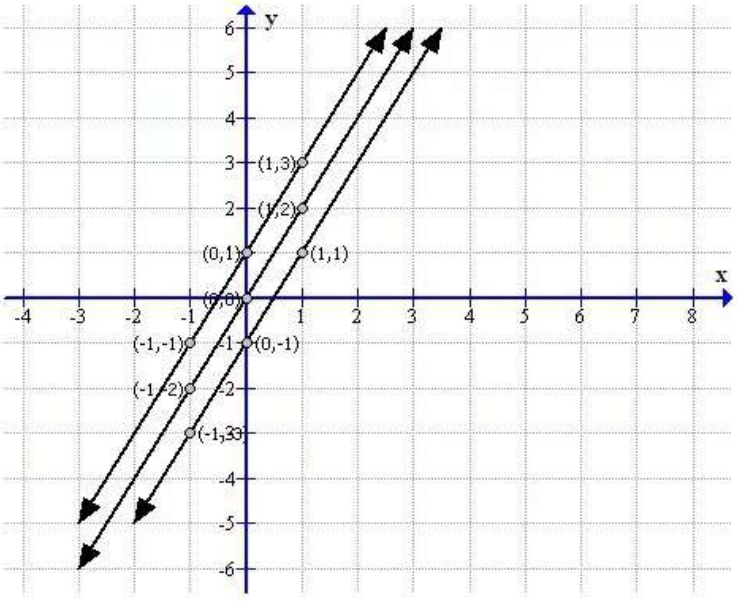


Solution 8:

First prepare a table as follows:

X	-1	0	1
Y=2x-1	-3	-1	1
Y = 2x	-2	0	2
Y=2x+1	-1	1	3

Now the graph can be drawn as follows:



The lines are parallel to each other.

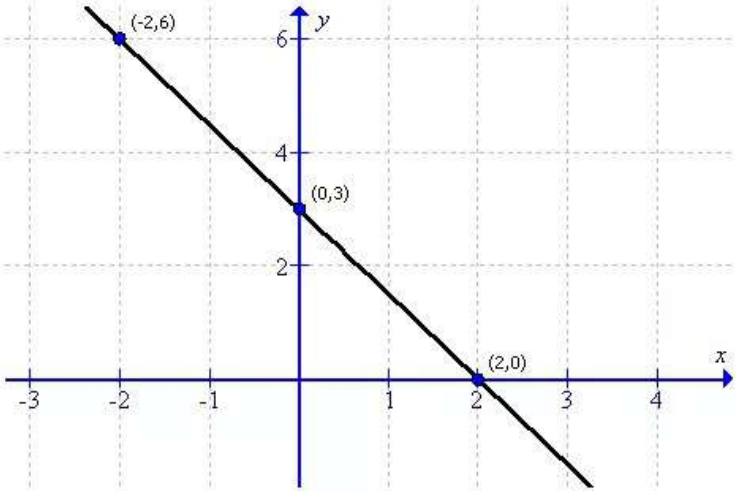
Solution 9:

To draw the graph of 3x + 2y = 6 follows the steps:

First prepare a table as below:

X	-2	0	2
Y	6	3	0

Now sketch the graph as shown:



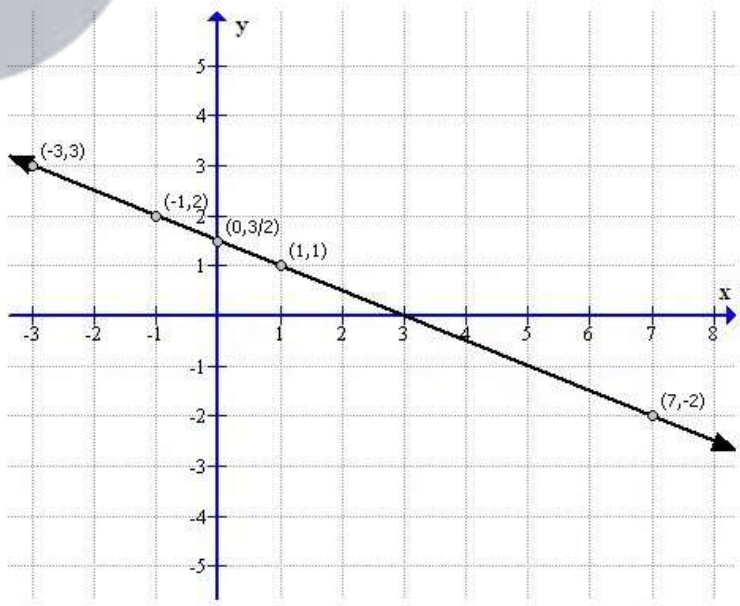
From the graph it can verify that the line intersect *x* axis at (2,0) and *y* at (0,3), therefore the co ordinates of P(x-axis) and Q(y-axis) are (2,0) and (0,3) respectively.

Solution 10:

First prepare a table as follows:

X	-1	0	1
Y	2	$\frac{3}{2}$	1

Thus the graph can be drawn as shown:



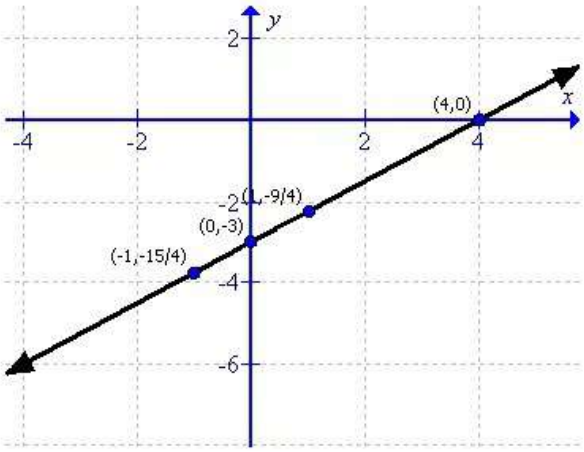
(i)
For y = 3 we have x = -3
(ii)
For y = -2 we have x = 7

Solution 11:

First prepare a table as follows:

x	-1	0	1
y	$-\frac{15}{4}$	-3	$-\frac{9}{4}$

The graph of the equation can be drawn as follows:



From the graph it can be verify that

If x = 4 the value of y = 0

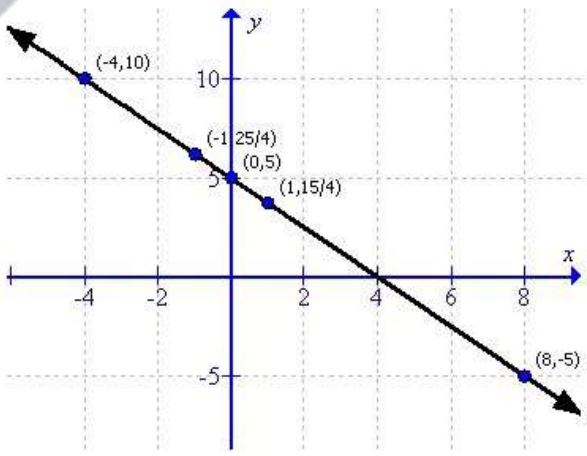
If x = 0 the value of y = -3.

Solution 12:

First prepare a table as follows:

x	-1	0	1
y	$\frac{25}{4}$	5	$\frac{15}{4}$

The graph of the equation can be drawn as follows:



From the graph it can be verified that:

for y = 10, the value of x = -4.

for x = 8 the value of y = -5.

Solution 13:

The equations can be written as follows:

$y = 2 - x$

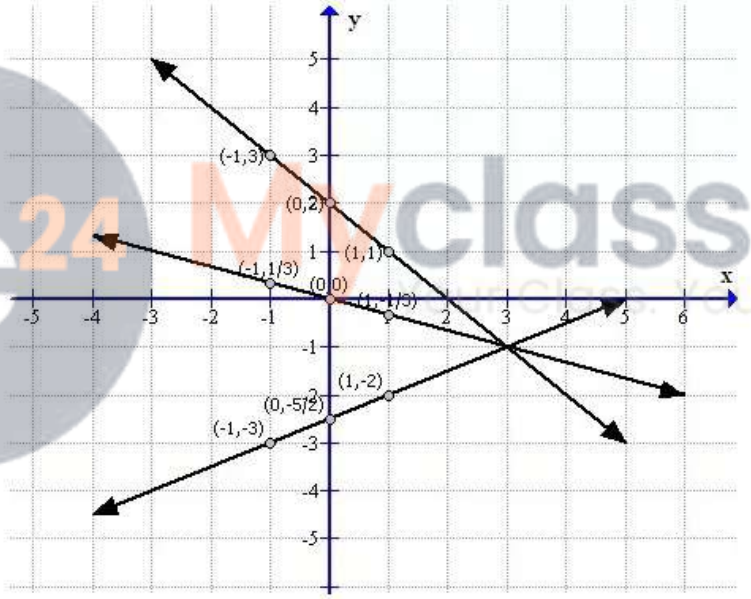
$$y = \frac{1}{2}(x - 5)$$

$$y = -\frac{x}{3}$$

First prepare a table as follows:

x	$y = 2 - x$	$y = \frac{1}{2}(x - 5)$	$y = -\frac{x}{3}$
-1	3	-3	$\frac{1}{3}$
0	2	$-\frac{5}{2}$	0
1	1	-2	$-\frac{1}{3}$

Thus the graph can be drawn as follows:



From the graph it is clear that the equation of lines are passes through the same point.