Pair of Linear Equations in Two varibles Ex 3.2 Q12

Answer :

The given equations are

$$x - 2y = 5 \qquad ....(i)$$
$$3x - 6y = 15 \qquad ....(ii)$$

Putting $x = 0$ in equation (i), we get:

$$\Rightarrow 0 - 2y = 5$$
$$\Rightarrow y = -5/2$$
$$x = 0, \quad y = -5/2$$

Putting $y = 0$ in equations (i) we get:
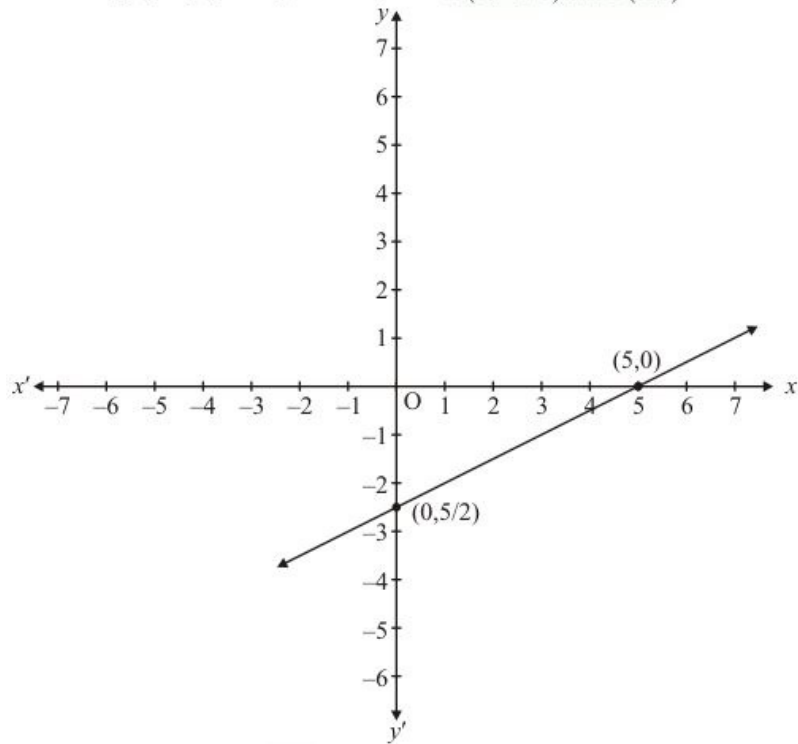
$$\Rightarrow x - 2 \times 0 = 5$$
$$\Rightarrow x = 5$$
$$x = 5, \quad y = 0$$

Use the following table to draw the graph.

x	0	5
y	$-5/2$	0

Draw the graph by plotting the two points $A(0,-5/2)$ and $B(5,0)$ from table

Graph of the equation....(ii):

$3x - 6y = 15$ ....(ii)

Putting $x = 0$ in equations (ii) we get:

$\Rightarrow 3 \times 0 - 6y = 15$

$\Rightarrow y = -5/2$

$x = 0,$ $y = -5/2$

Putting $y = 0$ in equation (ii), we get:

$\Rightarrow 3x - 6 \times 0 = 15$

$\Rightarrow x = 5$

$x = 5,$ $y = 0$

Use the following table to draw the graph.

x	0	5
y	$-5/2$	0

Draw the graph by plotting the two points $C(0,-5/2)$ and $D(5,0)$ from table.

Thus the graph of the two equations coincide

Consequently, every solution of one equation is a solution of the other.

Hence the equations have infinitely many solutions.

Pair of Linear Equations in Two varibles Ex 3.2 Q13

Answer :

The given equations are

$3x + y = 8 \qquad \dots\dots(i)$

$6x + 2y = 16 \qquad \dots\dots(ii)$

Putting $x = 0$ in equation (i), we get:

$\Rightarrow 3 \times 0 + y = 8$

$\Rightarrow y = 8$

$x = 0, \qquad y = 8$

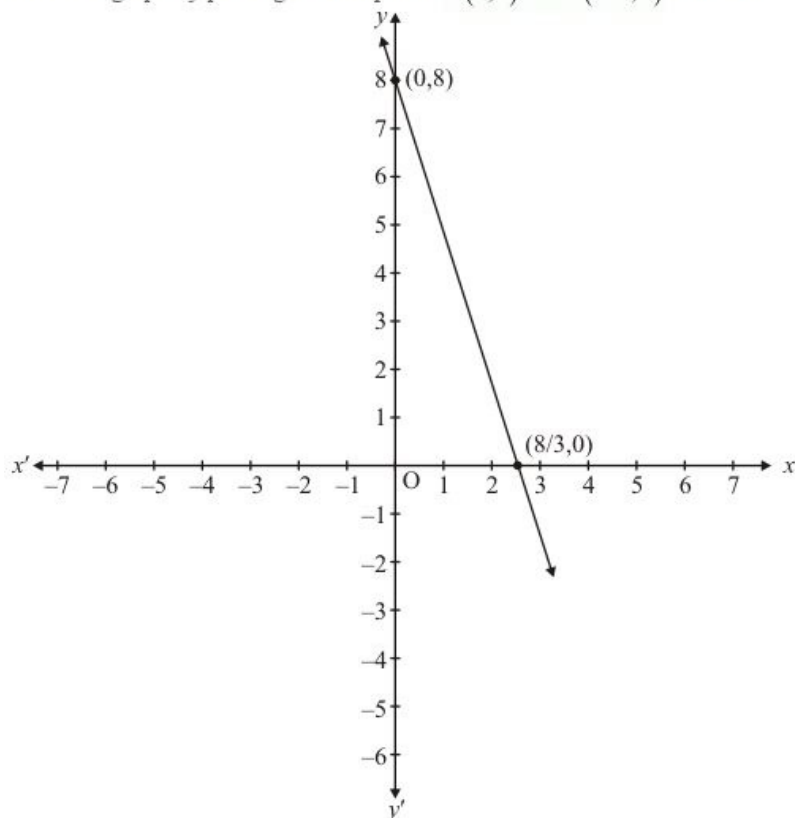Putting $y = 0$ in equations (i) we get:

$\Rightarrow 3x + 0 = 8$

$\Rightarrow x = 8/3$

$x = 8/3, \qquad y = 0$

Use the following table to draw the graph.

x	0	8/3
y	8	0

Draw the graph by plotting the two points $A(0,8)$ *and* $B(8/3,0)$ from table.

Graph of the equation....(*ii*):

$6x + 2y = 16$ ....(*ii*)

Putting $x = 0$ in equations (*ii*) we get:

$\Rightarrow 6 \times 0 + 2y = 16$

$\Rightarrow y = 8$

$x = 0, \qquad y = 8$

Putting $y = 0$ in equation (*ii*), we get:

$\Rightarrow 6x + 2 \times 0 = 16$

$\Rightarrow x = 8/3$

$x = 8/3, \qquad y = 0$

Use the following table to draw the graph.

x	0	8/3
y	8	0

Draw the graph by plotting the two points $C(0, 8), D(8/3, 0)$ from table.

Thus the graph of the two equations coincide

Consequently, every solution of one equation is a solution of the other.

Hence the equations have infinitely many solutions.

********** END *********