Pair of Linear Equations in Two varibles Ex 3.2 Q14

Answer :

The given equations are

$x-2y+11=0 \qquad .....(i)$

$3x-6y+33=0 \qquad .....(ii)$

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

$\Rightarrow 0-2y=-11$

$\Rightarrow y=11/2$

$x=0, \quad y=11/2$

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

$\Rightarrow x-2\times=-11$

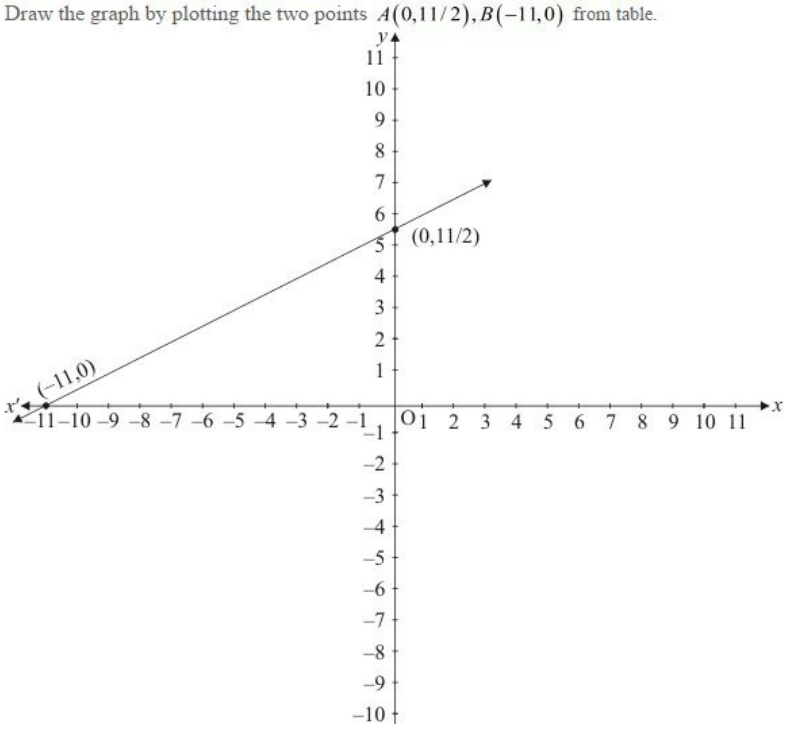
$\Rightarrow x=-11$

$x=-11, \quad y=0$

Use the following table to draw the graph.

x	0	-11
y	$11/2$	0

Draw the graph by plotting the two points $A(0,11/2), B(-11,0)$ from table.



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

$3x-6y=-33$ .....(ii)

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

$\Rightarrow 3\times 0-6y=-33$

$\Rightarrow y=11/2$

$x=0, \quad y=11/2$

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

$\Rightarrow 3x-6\times 0=-33$

$\Rightarrow x=-11$

$x=-11, \quad y=0$

Use the following table to draw the graph.

x	0	-11
y	$11/2$	0

Draw the graph by plotting the two points $C(0,11/2), D(-11,0)$ from table.

Thus the graph of the two equations are 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 Q15

Answer :

The given equations are

$3x - 5y = 20 \quad .....(i)$

$6x - 10y = -4 \quad .....(ii)$

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

$\Rightarrow 3 \times 0 - 5y = 20$

$\Rightarrow y = -4$

$x = 0, \quad y = -4$

Putting $y = 0$ in equation (i) we get

$\Rightarrow 3x - 5 \times 0 = 20$

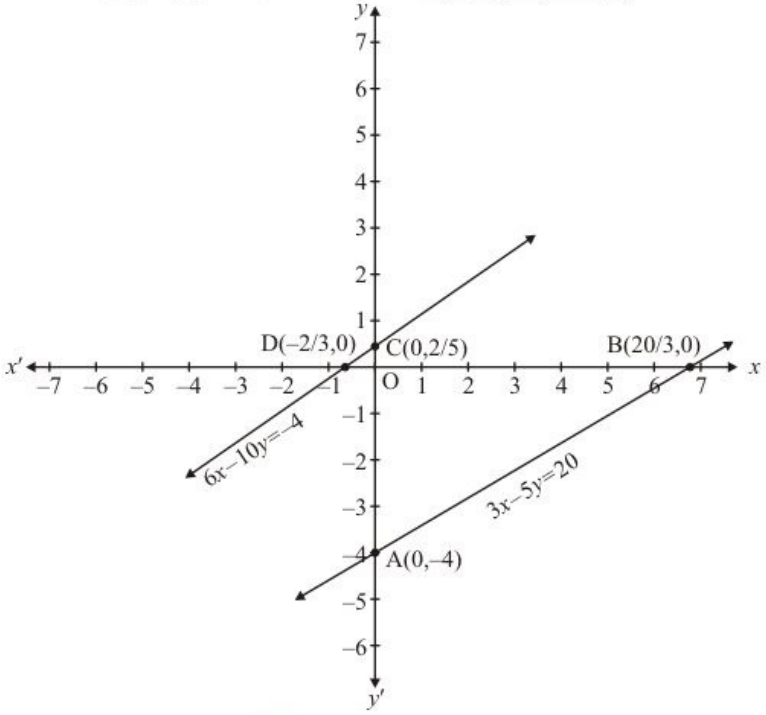
$\Rightarrow x = 20/3$

$x = 20/3, \quad y = 0$

Use the following table to draw the graph.

x	0	$20/3$
y	-4	0

Draw the graph by plotting the two points $A(0,-4)$, $B(20/3,0)$ from table.



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

$6x-10y=-4$ .....(ii)

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

$\Rightarrow 6\times 0-10y=-4$

$\Rightarrow y=2/5$

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

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

$\Rightarrow 6x-10\times 0=-4$

$\Rightarrow x=-2/3$

$x=-2/3, \quad y=0$

Use the following table to draw the graph.

x	0	$-2/3$
y	$2/5$	0

Draw the graph by plotting the two points $C(0,-4)$, $D(20/3,0)$ from table.

Here we see that the two lines are parallel

Hence the given system of equations has no solution.

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