Pair of Linear Equations in Two varibles Ex 3.2 Q35

Answer :

The given equations are:

$3x-4y=7 \quad .....(i)$

$5x+2y=3 \quad .....(ii)$

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

$\Rightarrow 3\times 0-4y=7$

$\Rightarrow y=-7/4$

$x=0, \quad y=-7/4$

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

$\Rightarrow 3x-4\times 0=7$

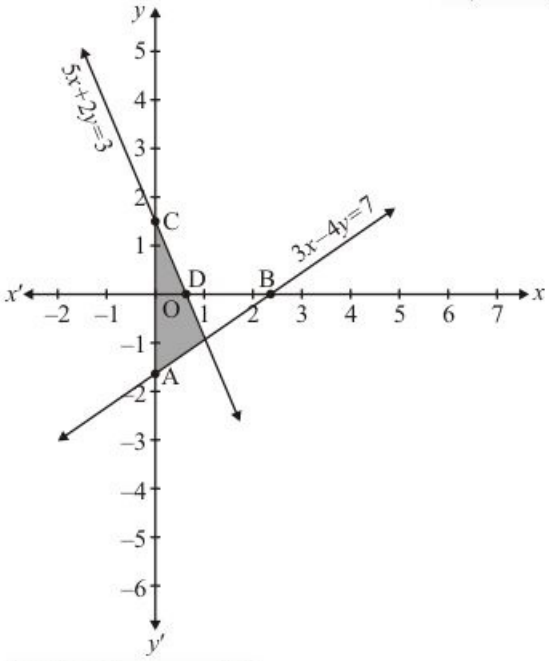
$\Rightarrow x=7/3$

$x=7/3, \quad y=0$

Use the following table to draw the graph.

x	0	$7/3$
y	$-7/4$	0

Draw the graph by plotting the two points $A(0,-7/4), B(7/3,0)$ from table.



$5x+2y=3 \quad .....(ii)$

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

$\Rightarrow 5\times 0+2y=3$

$\Rightarrow y=2/3$

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

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

$\Rightarrow 5x+2\times 0=3$

$\Rightarrow x=3/5$

$x=3/5, \quad y=0$

Use the following table to draw the graph.

x	0	3/5
y	3/2	0

Draw the graph by plotting the two points $C(0,3/2)$ and $D(3/5,0)$ from table.

The two lines intersect at points $P(1,-1)$ of y−axis.

Hence, $\boxed{x=1}$ and $\boxed{y=-1}$ is the Solution.

(ii) The equations are:

$4x-y=4 \quad .....(1)$

$3x+2y=14 \quad .....(2)$

Putting $x=0$ in equation (1) we get:

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

$\Rightarrow y=-4$

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

Putting $y=0$ in equation (1) we get:

$\Rightarrow 4x-0=4$

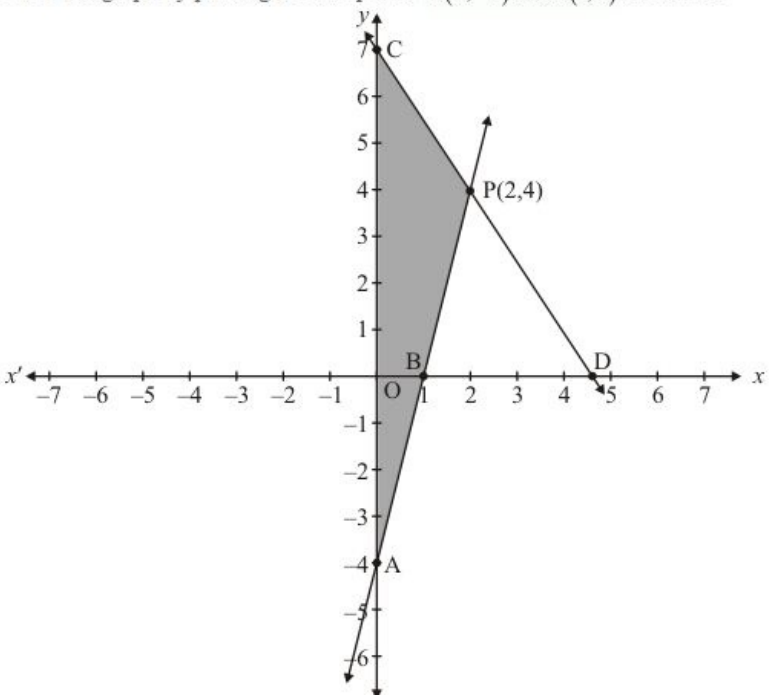
$\Rightarrow x=1$

$x=1, \quad y=0$

Use the following table to draw the graph:

x	0	1
y	–4	0

Draw the graph by plotting the two points $A(0,-4)$ and $B(1,0)$ from table.



$3x+2y=14$ .....(2)

Putting $x=0$ in equation (2) we get:

$\Rightarrow 3\times 0+2y=14$

$\Rightarrow y=7$

$x=0, \quad y=7$

Putting $y=0$ in equation (2) we get:

$\Rightarrow 3x+2\times 0=14$

$\Rightarrow x=14/3$

$x=14/3, \quad y=0$

Use the following table to draw the graph.

x	0	14/3
y	7	0

Draw the graph by plotting the two points $C(0,7), D(14/3,0)$ from table.

Two lines intersect at points $P(2,4)$ of y–axis.

Hence $\boxed{x=2}$ and $\boxed{y=4}$ is the solution.

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