Pair of Linear Equations in Two varibles Ex 3.2 Q25

Answer :

The given equations are

$2x+3y=12 \quad .....(i)$

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

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

$\Rightarrow 2\times 0+3y=12$

$\Rightarrow y=4$

$x=0, \quad y=4$

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

$\Rightarrow x+3\times 0=6$

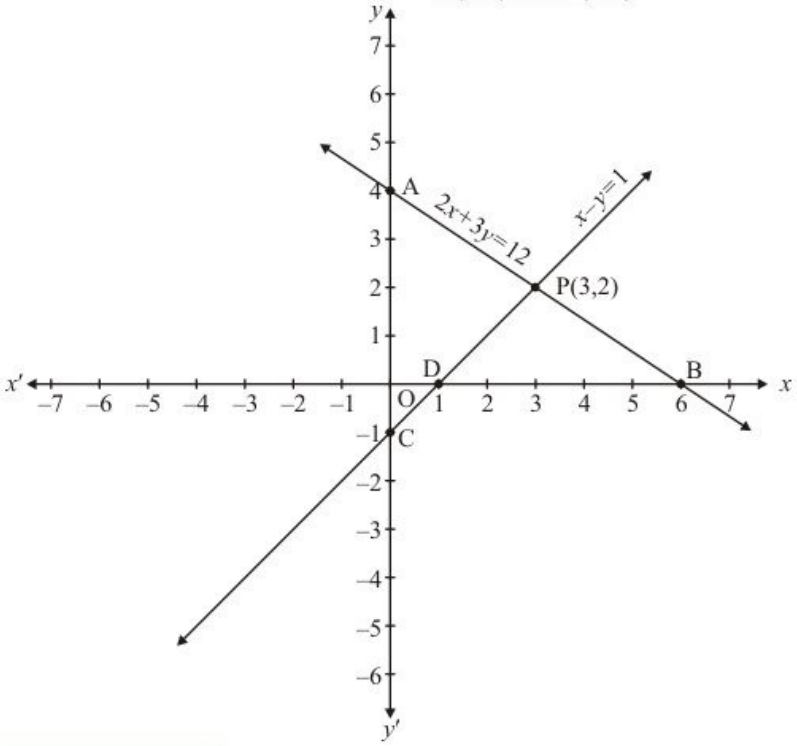
$\Rightarrow x=6$

$x=6, \quad y=0$

Use the following table to draw the graph.

x	0	6
y	4	0

Draw the graph by plotting the two points $A(0,2)$ *and* $B(6,0)$ from table.



$x-y=1 \quad \ldots\ldots(ii)$

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

$\Rightarrow 0-y=1$

$\Rightarrow y=-1$

$x=0, \quad y=-1$

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

$\Rightarrow x-0=1$

$\Rightarrow x=1$

$x=1, \quad y=0$

Use the following table to draw the graph.

x	0	1
y	−1	0

Draw the graph by plotting the two points $C(0,-1), D(1,0)$ from table.

Draw the graph by plotting the two points from table.

The intersection point is P(3, 2)

Three points of the triangle are $A(0,4), C(0,-1)$ and $P(3,2)$.

Hence the value of $\boxed{x=3}$ and $\boxed{y=2}$

Pair of Linear Equations in Two varibles Ex 3.2 Q26

Answer :

The given equations are

$$x - y + 1 = 0 \quad .....(i)$$

$$3x + 2y - 12 = 0 \quad .....(ii)$$

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

$$\Rightarrow 0 - y = -1$$

$$\Rightarrow y = 1$$

$$x = 0, \quad y = 1$$

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

$$\Rightarrow x - 0 = -1$$

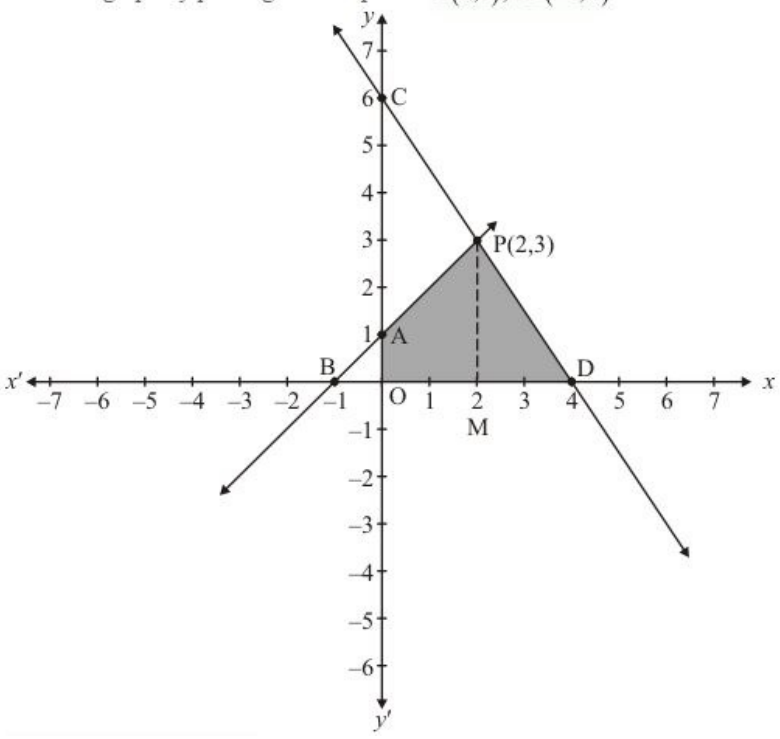
$$\Rightarrow x = -1$$

$$x = -1, \quad y = 0$$

Use the following table to draw the graph.

x	0	-1
y	1	0

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



$3x+2y=12 \quad .....(ii)$

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

$\Rightarrow 3\times 0+2y=12$

$\Rightarrow y=6$

$x=0, \quad y=6$

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

$\Rightarrow 3x+2\times 0=12$

$\Rightarrow x=4$

$x=4, \quad y=0$

Use the following table to draw the graph.

x	0	4
y	6	0

Draw the graph by plotting the two points $C(0,6), D(4,0)$ from table.

The two lines intersect at $P(2,3)$.

Now, Required area = Area of shaded region

$\Rightarrow$ Required area = Area of PBD

$\Rightarrow$ Required area = $1/2(\text{base}\times\text{height})$

$\Rightarrow$ Required area = $1/2(BD\times PM)$

$\Rightarrow$ Required area = $1/2(5\times 3)$sq.units

Hence the area = $\boxed{7.5 \text{ sq.units}}$

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