Pair of Linear Equations in Two varibles Ex 3.2 Q18

Answer :

The given equations are

$3x - 4y - 1 = 0 \quad .....(i)$

$2x - \frac{8}{3}y + 5 = 0$

$6x - 8y + 15 = 0 \quad .....(ii)$

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

$\Rightarrow 3 \times 0 - 4y = 1$

$\Rightarrow y = -1/4$

$\Rightarrow x = 0, \quad y = -1/4$

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

$\Rightarrow 3x - 4 \times 0 = 1$

$\Rightarrow x = 1/3$

$\Rightarrow x = 1/3, \quad y = 0$

Use the following table to draw the graph.

x	0	$1/3$
y	$-1/4$	0

The graph of (i) can be obtained by plotting the two points $A(0,-1/4), B(1/3,0)$.

$6x - 8y = -15 \quad .....(ii)$

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

$\Rightarrow 6 \times 0 - 8y = -15$

$\Rightarrow y = 15/8$

$\Rightarrow x = 0, \quad y = 15/8$

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

$\Rightarrow 6x - 8 \times 0 = -15$

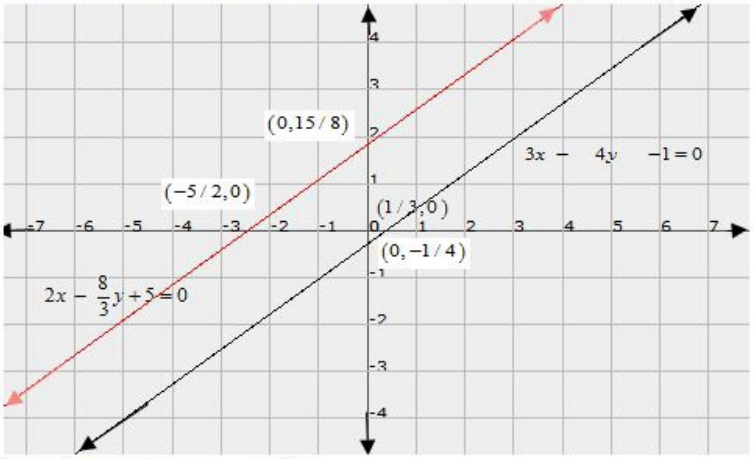
$\Rightarrow x = -15/6$

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

Use the following table to draw the graph.

x	0	$-5/2$
y	$15/8$	0

Draw the graph by plotting the two points $C(0,15/8), D(-5/2,0)$ from table.



Here, the two lines are parallel.

Hence the given system of equations is inconsistent.

Pair of Linear Equations in Two varibles Ex 3.2 Q19

Answer :

(i) Draw the 3 lines as given by equations

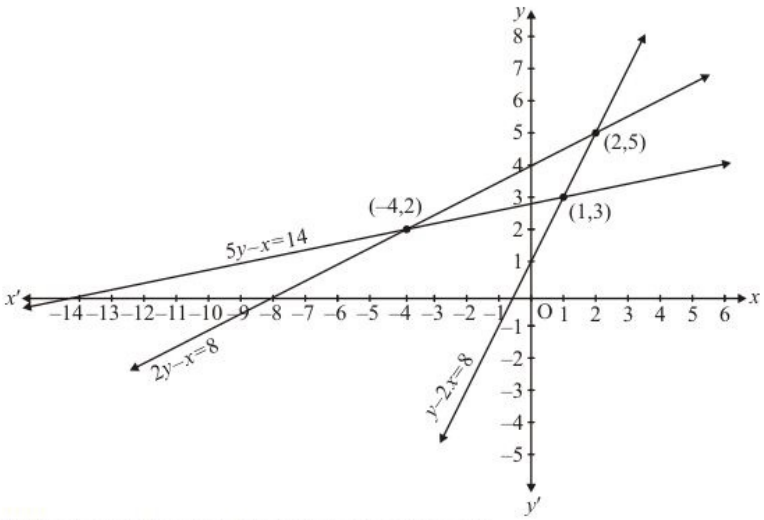
By taking $x=1 = 1$ cm on $x-$axis

And $y = 1 = 1$cm on $y-$axis

$$\frac{y}{4} - \frac{x}{8} = 1$$

$$\frac{y}{2.8} - \frac{x}{14} = 1$$

$$\frac{y}{1} - \frac{x}{0.5} = 1$$



Clearly from graph points of intersection three lines are

(−4,2) , (1,3), (2,5)

(ii) Draw the 3 lines as given by equations

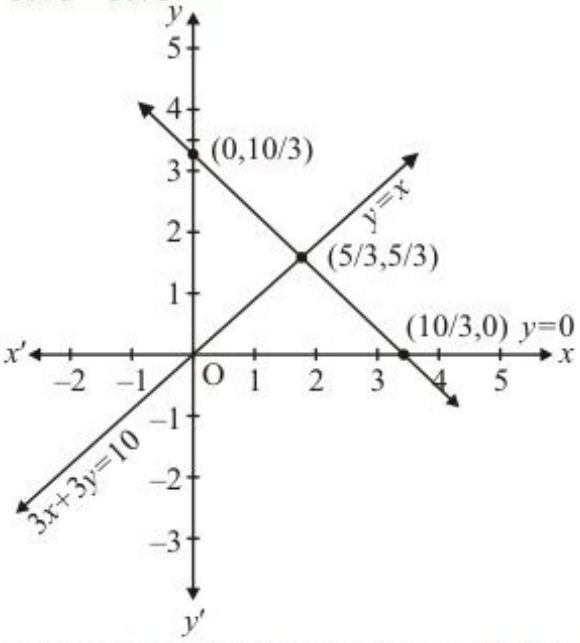
By taking $x=1 = 1$ cm on $x-$axis

And $y = 1 = 1$cm on $y-$axis

$y = 0$

$y = x$

$$\frac{y}{10/3} + \frac{x}{10/3} = 1$$



From graph point of intersection are (0,0) (10/3,0) (5/3,5/3)

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