Pair of Linear Equations in Two varibles Ex 3.3 Q14

Answer :

The given equations are:

$0.5x+0.7y=0.74 \ \ldots \ (i)$

$0.3x+0.5=0.5 \ \ldots \ (ii)$

Multiply equation (i) by 0.5 and (ii) by 2 and subtract equation (ii) from (i) we get

$0.25x+0.35y=0.37$

$0.21x+0.35y=0.35$

$0.04x=0.02$

$\Rightarrow x=0.5$

Put the value of x in equation (i), we get

$0.5\times 0.5+0.7y=0.74$

$\Rightarrow 0.7y=0.49$

$\Rightarrow y=0.7$

Hence the value of $\boxed{x=0.5}$ and $\boxed{y=0.7}$

Pair of Linear Equations in Two varibles Ex 3.3 Q15

Answer :

The given equations are:

$$\frac{1}{7x}+\frac{1}{6y}=3 \ \ldots \ (i)$$

$$\frac{1}{2x}-\frac{1}{3y}=5 \ \ldots \ (ii)$$

Multiply equation (ii) by $\frac{1}{2}$ and add both equations we get

$$\frac{1}{7x}+\frac{1}{6y}=3$$

$$\frac{1}{4x}-\frac{1}{6y}=\frac{5}{2}$$

$$\frac{11}{28x}=\frac{11}{2}$$

$$\Rightarrow x=\frac{1}{14}$$

Put the value of x in equation (i), we get

$$\frac{1}{7\times\frac{1}{14}}+\frac{1}{6y}=3$$

$$\Rightarrow \frac{1}{6y}=1$$

$$\Rightarrow y=\frac{1}{6}$$

Hence the value of $\boxed{x=\frac{1}{14}}$ and $\boxed{y=\frac{1}{6}}$

Pair of Linear Equations in Two varibles Ex 3.3 Q16

Answer :

The given equations are:

$\frac{1}{2x}+\frac{1}{3y}=2$ ... (i)

$\frac{1}{3x}+\frac{1}{2y}=\frac{13}{6}$ ... (ii)

Multiply equation (i) by $\frac{1}{2}$ and (ii) by $\frac{1}{3}$ and subtract equation (ii) from (i) we get

$$\frac{1}{4x}+\frac{1}{6y}=1$$

$$\frac{1}{9x}+\frac{1}{6y}=\frac{13}{18}$$

$$\frac{5}{36x}=\frac{5}{18}$$

$$\Rightarrow x=\frac{1}{2}$$

Put the value of x in equation (i), we get

$$\frac{1}{2\times\frac{1}{2}}+\frac{1}{3y}=2$$

$$\frac{1}{3y}=2-1$$

$$\frac{1}{3y}=1$$

$$y=\frac{1}{3}$$

Hence the value of $\boxed{x=\frac{1}{2}}$ and $y=\frac{1}{3}$

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