Pair of Linear Equations in Two varibles Ex 3.3 Q45

Answer :

The given equations are:

$$\frac{2}{\sqrt{x}}+\frac{3}{\sqrt{y}}=2 \ldots (i)$$

$$\frac{4}{\sqrt{x}}-\frac{9}{\sqrt{y}}=-1 \ldots (ii)$$

Multiply equation (i) by 3 and add both equations we get

$$\frac{6}{\sqrt{x}}+\frac{9}{\sqrt{y}}=6$$

$$\frac{4}{\sqrt{x}}-\frac{9}{\sqrt{y}}=-1$$

$$\frac{10}{\sqrt{x}}=5$$

$$\Rightarrow \sqrt{x}=2$$

$$\Rightarrow x=4$$

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

$$\frac{2}{\sqrt{4}}+\frac{3}{\sqrt{y}}=2$$

$$\Rightarrow \sqrt{y}=3$$

$$\Rightarrow y=9$$

Hence the value of $\boxed{x=4}$ and $\boxed{y=9}$

Pair of Linear Equations in Two varibles Ex 3.3 Q46

Answer :

The given equations are:

$\frac{7x-2y}{xy}=5 \quad \ldots (i)$

$7x-2y=5xy$

$\frac{8x+7y}{xy}=15 \quad \ldots (ii)$

$8x+7y=15xy$

Multiply equation (i) by 7 and equation (ii) by 2, add both equations we get

$49x-14y=35xy$

$16x+14y=30xy$

$65x=65xy$

$\Rightarrow y=1$

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

$7x-2\times1=5x\times1$

$\Rightarrow 2x=2$

$\Rightarrow x=1$

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

Pair of Linear Equations in Two varibles Ex 3.3 Q47

Answer :

The given equations are:

$152x-378y=-74 \ldots (i)$

$-378x+152y=-604 \ldots (ii)$

Multiply equation (i) by 152 and equation (ii) by 378 and add both equations we get

$23104x-57456y=-11248$

$-142884x+57456y=-2283312$

$-119780x=-239560$

$\Rightarrow x=2$

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

$152\times2-378y=-74$

$\Rightarrow -378y=-378$

$\Rightarrow y=1$

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

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