



Pair of Linear Equations in Two variables Ex 3.3 Q45

**Answer :**

The given equations are:

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

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

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  $x = 4$  and  $y = 9$

Pair of Linear Equations in Two variables Ex 3.3 Q46

**Answer :**

The given equations are:

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

$$7x-2y = 5xy$$

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

$$8x+7y = 15xy$$

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

$$7x - 2 \times 1 = 5x \times 1$$

$$\Rightarrow 2x = 2$$

$$\Rightarrow x = 1$$

Hence the value of  $x = 1$  and  $y = 1$

Pair of Linear Equations in Two variables Ex 3.3 Q47

**Answer :**

The given equations are:

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

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

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

$$152 \times 2 - 378y = -74$$

$$\Rightarrow -378y = -378$$

$$\Rightarrow y = 1$$

Hence the value of  $x = 2$  and  $y = 1$

\*\*\*\*\* END \*\*\*\*\*