

## Pair of Linear Equations in Two varibles Ex 3.9 Q6 Answer:

Let the present age of father be x years and the present age of his son be y years.

The present age of father is three years more than three times the age of the son. Thus, we have x = 3y + 3

$$\Rightarrow x-3y-3=0$$

After 3 years, father's age will be (x+3) years and son's age will be (y+3) years.

Thus using the given information, we have

x+3=2(y+3)+10

 $\Rightarrow x+3=2y+6+10$ 

 $\Rightarrow x-2y-13=0$ 

So, we have two equations

x-3y-3=0

x - 2y - 13 = 0

Here x and y are unknowns. We have to solve the above equations for x and y.

By using cross-multiplication, we have

$$\frac{x}{(-3)\times(-13)-(-2)\times(-3)} = \frac{-y}{1\times(-13)-1\times(-3)} = \frac{1}{1\times(-2)-1\times(-3)}$$

$$\Rightarrow \frac{x}{39-6} = \frac{-y}{-13+3} = \frac{1}{-2+3}$$

$$\Rightarrow \frac{x}{33} = \frac{-y}{-10} = \frac{1}{1}$$

$$\Rightarrow \frac{x}{33} = \frac{y}{10} = 1$$

Hence, the present age of father is 33 years and the present age of son is 10 years.

## Pair of Linear Equations in Two varibles Ex 3.9 Q7

## Answer:

Let the present age of father be x years and the present age of his son be y years.

The present age of father is three times the age of the son. Thus, we have

x = 3y

 $\Rightarrow x - 3y = 0$ 

After 12 years, father's age will be (x+12) years and son's age will be (y+12) years. Thus using the given information, we have

x+12 = 2(y+12)

 $\Rightarrow x + 12 = 2y + 24$ 

 $\Rightarrow x-2y-12=0$ 

So, we have two equations

x-3y=0

x-2y-12=0

Here x and y are unknowns. We have to solve the above equations for x and y.

By using cross-multiplication, we have

$$\frac{x}{(-3)\times(-12)-(-2)\times0} = \frac{-y}{1\times(-12)-1\times0} = \frac{1}{1\times(-2)-1\times(-3)}$$

$$\Rightarrow \frac{x}{36-0} = \frac{-y}{-12-0} = \frac{1}{-2+3}$$

$$\Rightarrow \frac{x}{36} = \frac{-y}{-12} = \frac{1}{1}$$

$$\Rightarrow \frac{x}{36} = \frac{y}{12} = 1$$

$$\Rightarrow x = 36, y = 12$$

Hence, the present age of father is 36 years and the present age of son is 12 years.