



### Pair of Linear Equations in Two variables Ex 3.6 Q7

**Answer :**

To find:

(1) Total mangoes of A.

(2) Total mangoes of B.

Suppose A has  $x$  mangoes and B has  $y$  mangoes,

According to the given conditions,

$$x + 30 = 2(y - 30)$$

$$x + 30 = 2y - 60$$

$$x - 2y + 30 + 60 = 0$$

$$x - 2y + 90 = 0$$

.....(1)

$$y + 10 = 3(x - 10)$$

$$y + 10 = 3x - 30$$

$$y - 3x + 10 + 30 = 0$$

$$y - 3x + 40 = 0$$

.....(2)

Multiplying eq. 1 by (3),

$$3x + 6y + 270 = 0 \text{ ..... (3) and}$$

Now adding eq.2 and eq.3

$$5y = 310$$

$$y = \frac{310}{5}$$

$$\boxed{y = 62}$$

$$x - 2 \times 62 + 90 = 0$$

$$x - 124 + 90 = 0$$

$$x - 34 = 0$$

$$\boxed{x = 34}$$

Hence A has 34 mangoes and B has 62 mangoes.

### Pair of Linear Equations in Two variables Ex 3.6 Q8

**Answer :**

Given:

(i) On selling of a T.V. at 5% gain and a fridge at 10% gain, shopkeeper gain Rs.2000.

(ii) Selling T.V. at 10% gain and fridge at 5% loss. He gains Rs. 1500.

To find: Actual price of T.V. and fridge.

Let the S.P. of T.V. = Rs.  $x$ ;

Let the S.P. of fridge = Rs.  $y$

$$\text{S.P. of T.V at 5\% gain} = \frac{5x}{100}$$

$$\text{S.P. of T.V at 10\% gain} = \frac{10x}{100}$$

$$\text{S.P. of Fridge at 5\% gain} = \frac{5y}{100}$$

$$\text{S.P. of Fridge at 10\% gain} = \frac{10y}{100}$$

According to the question:

$$\frac{5x}{100} + \frac{10y}{100} = 2000$$

$$5x + 10y = 200000$$

$$x + 2y = 40000$$

$$x + 2y - 40000 = 0$$

.....(1)

$$\frac{10x}{100} - \frac{5y}{100} = 1500$$

$$10x - 5y = 15000$$

$$2x - 1y = 30000$$

$$2x - 1y = 30000 = 0$$

.....(2)

Hence we got the pair of equations

$$1x + 2y - 40000 = 0 \text{ ..... (1)}$$

$$2x - 1y - 30000 = 0 \text{ ..... (2)}$$

Solving the equation by cross multiplication method;

$$\frac{x}{(-30000 \times 2) - (40000)} = \frac{-y}{(-30000 \times 1) - (-40000 \times 2)} = \frac{1}{(-1 - 4)}$$

$$\frac{x}{(-100000)} = \frac{-y}{(50000)} = \frac{1}{(-5)}$$

$$\frac{x}{(-100000)} = \frac{1}{(-5)}$$

$$\boxed{x = 20000}$$

$$\frac{-y}{(50000)} = \frac{1}{(-5)}$$

$$\boxed{y = 10000}$$

$$\text{Cost of T.V.} = \boxed{20000}$$

$$\text{Cost of fridge} = \boxed{10000}$$

Hence the cost of T.V. is  $\boxed{\text{Rs } 20000}$  and that of fridge is  $\boxed{\text{Rs } 10000}$ .

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