



Pair of Linear Equations in Two variables Ex 3.6 Q5

Answer :

Given:

(i) Cost of 3 bags and 4 pens = Rs. 257.

(ii) Cost of 4 bags and 3 pens = Rs. 324.

To Find: Cost of 1 bag and 10 pens.

Suppose, the cost of 1 bag = Rs. x .

and the cost 1 pen = Rs. y .

According to the given conditions, we have

$$3x + 4y = 257,$$

$$3x + 4y - 257 = 0 \dots\dots (1)$$

$$4x + 3y = 324$$

$$4x + 3y - 324 = 0 \dots\dots (2)$$

Solving equation 1 and 2 by cross multiplication

$$\frac{x}{-1296+771} = \frac{-y}{-972+1028} = \frac{1}{9-16}$$

$$\frac{x}{-525} = \frac{-y}{56} = \frac{1}{-7}$$

$$x = \frac{-525}{-7}$$

$$= 75$$

\therefore cost of 1 bag = Rs. 75.

cost of 1 bag = Rs. 75.

$$y = \frac{-56}{-7}$$

$$= 8$$

\therefore cost of 1 pen = Rs. 8.

cost of 10 pens = Rs. 80.

Total cost of 1 bag and 10 pens = **Rs. 155**

Hence total cost of 1 bag and 10 pens = **Rs. 155**

Pair of Linear Equations in Two variables Ex 3.6 Q6

Answer :

Given:

(i) Cost of 5 books and 7 pens = Rs. 79.

(ii) Cost of 7 books and 5 pens = Rs. 77.

To find: Cost of 1 book and 2 pens.

Suppose the cost of 1 book = Rs x .

and the cost of 1 pen = Rs y .

According to the given conditions, we have

$$5x + 7y = 79$$

$$5x + 7y - 79 = 0 \dots\dots (1)$$

$$7x + 5y = 77,$$

$$5x + 7y - 77 = 0 \dots\dots (2)$$

Thus we get the following system of linear equation,

$$5x + 7y - 79 = 0 \text{ and}$$

$$5x + 7y - 77 = 0.$$

$$\frac{x}{-539+385} = \frac{-y}{-385+553} = \frac{1}{25-49}$$

$$\frac{x}{-144} = \frac{-y}{-168} = \frac{1}{-24}$$

$$x = \frac{-144}{-24}$$

$$\boxed{x = 6}$$

$$\frac{-y}{-385+553} = \frac{1}{25-49}$$

$$\frac{-y}{168} = \frac{1}{-24}$$

$$y = \frac{-168}{-24}$$

$$\boxed{y = 7}$$

Hence, the cost of 1 book = Rs 6

and the cost of 1 pen = Rs 7.

Therefore the cost of 2 pen = Rs 14.

Total cost of 1 book and 2 pens = $14 + 6 = 20$

Total cost of 1 book and 2 pens = $\boxed{\text{Rs. } 20}$

Hence total cost of 1 book and 2 pens = $\boxed{\text{Rs. } 20}$

***** END *****