



Pair of Linear Equations in Two variables Ex 3.6 Q9

Answer :

Given: (i) 7 bats and 6 balls cost is Rs3800

(ii) 3 bats and 5 balls cost is Rs1750

To find: Cost of 1 bat and 1 ball

Let (i) the cost of 1 bat = Rs. x .

(ii) the cost of 1 ball = Rs. y .

According to the given conditions, we have

$$7x + 6y = 3800$$

$$7x + 6y - 3800 = 0 \quad \text{..... (1)}$$

$$3x + 5y = 1750$$

$$3x + 5y - 1750 = 0 \quad \text{..... (2)}$$

Thus, we get the following system of linear equation,

$$7x + 6y - 3800 = 0 \quad \text{..... (1)}$$

$$3x + 5y - 1750 = 0 \quad \text{..... (2)}$$

By using cross multiplication, we have

$$\frac{x}{(-1750 \times 6) - (-3800 \times 5)} = \frac{-y}{(-1750 \times 7) - (-3800 \times 3)} = \frac{1}{35 - 18}$$

$$\frac{x}{(8500)} = \frac{-y}{(-850)} = \frac{1}{17}$$

$$\frac{x}{(8500)} = \frac{1}{17}$$

$$\boxed{x = 500}$$

$$\frac{-y}{(-850)} = \frac{1}{17}$$

$$\boxed{x = 50}$$

$$\text{Hence cost of 1 bat} = \boxed{x = 500}$$

$$\text{Hence cost of 1 ball} = \boxed{x = 50}$$

Pair of Linear Equations in Two variables Ex 3.6 Q10

Answer :

To find:

(1) Total amount of A.

(2) Total amount of B.

Suppose A has Rs x and B has Rs y

According to the given conditions,

$$x + 100 = 2(y - 100)$$

$$x + 100 = 2y - 200$$

$$x - 2y = -300 \quad \dots(1)$$

and

$$y + 10 = 6(x - 10)$$

$$y + 10 = 6x - 60$$

$$6x - y = 70 \quad \dots(2)$$

Multiplying equation (2) by 2 we get

$$12x - 2y = 140 \quad \dots(3)$$

Subtracting (1) from (3), we get

$$11x = 440$$

$$x = 40$$

Substituting the value of x in equation (1), we get

$$40 - 2y = -300$$

$$-2y = -340$$

$$y = 170$$

Hence A has $x = \text{Rs } 40$ and B has $y = \text{Rs } 170$

Answer :

To find:

(1) the fixed charge

(2) The charge for each day

Let the fixed charge be Rs x

And the extra charge per day be Rs y .

According to the given conditions,

$$x + 4y = 27$$

$$x + 4y - 27 = 0 \quad \text{.....(1)}$$

$$x + 2y = 21$$

$$x + 2y - 21 = 0 \quad \text{.....(2)}$$

Subtracting equation 1 and 2 we get

$$2y = 6$$

$$\boxed{y = 3}$$

Substituting the value of y in equation 1 we get

$$x + 4(3) - 27 = 0$$

$$x + 12 - 27 = 0$$

$$x - 15 = 0$$

$$\boxed{x = 15}$$

Hence the fixed charge is $\boxed{x = \text{Rs } 15}$ and the charge of each day $\boxed{y = \text{Rs } 3}$

***** END *****