Answer on Question #72715 - Subject - Algebra

Given: The cost of 5 boxes of envelopes and 5 packages of notebook paper is 25.95. Two boxes of envelopes and 6 packages of paper cost is 22.38. How much would one box of envelopes cost?

To Find: Find the cost of one box of envelopes.

Solution: Let the cost of a box of envelopes is x and the cost of a package of paper is y.

Now, according to question

$$5x + 5y = 25.95................(1)$$

&

$$2x + 6y = 22.38................(2)$$

For solving the above equations, we will eliminate a variable of our choice (either x or y).

For eliminating y, make the coefficient equals. For this, multiply equation 1 by 6 and equation 2 by 5, we get

$$30x + 30y = 155.7$$

$$10x + 30y = 111.9$$

On subtraction, we get

$$20x = 43.8 \qquad \Rightarrow x = 2.19$$

Put the value of x in equation 1, we get

$$5(2.19) + 5y = 25.95 \quad \Rightarrow 5y = 25.95 - 10.95$$

$$\Rightarrow 5y = 15 \qquad \Rightarrow y = 3$$

Hence, the cost of one box of envelopes is 2.19.