Answer on Question 49364, Math, Linear Algebra

A bookstore placed two orders with a publisher. The first order was for 12 copies of a history text and 4 copies of a geography text, for a total cost of $1060. The second order was for 6 copies of the history text and 4 copies of the geography text for a total cost was $640.

a) What is the cost of one copy of the history text?

b) What is the cost of one copy of the geography text?

Solution

Let us right down equations for this problem. Let x is cost of copy of history text and y is cost of copy of geography text. Then

$$12x + 4y = 1060$$

$$6x + 4y = 640$$

By subtracting second **equation** from **the first**

one we find
$$6x = 420$$

$$x = 70$$

$$y = (640 - 6x)/4 = 55$$

Hence cost of copy of history text is 70 and cost of copy of geography text is 55.