

Solution:

(1)

$$\text{Gross Profit \%age} = \left(\frac{\text{Gross Profit}}{\text{Sales}} \times 100 \right) \% = \left(\frac{2,400,000}{6,000,000} \times 100 \right) \% = 40\%$$

$$\text{Inventory Turnover} = \frac{3,600,000}{\left(\frac{1,300,000 + 1,100,000}{2} \right)} = 3$$

(2)

Since gross profit and the percentage of gross profit is same, then the sales and the cost of goods sold remains same.

Thus, we get

$$\text{Inventory Turnover} = \frac{3,600,000}{1,000,000} = 3.6$$

(3)

The cost of goods sold is given by:

$$\text{Cost of Goods Sold} = 3 \times \$1,000,000 = \$3,000,000$$

Let

$$\text{Gross Profit} = x \Rightarrow \text{Sales} = 2.5x \Rightarrow \text{Cost of Goods Sold} = 1.5x$$

Thus, the gross profit comes out to be

$$\text{Gross Profit} = \$2,000,000$$

(4)

(a)

To do this, we note that the inventory turnover becomes 2.7 (10% decrease). This means that the cost of goods sold is

$$\text{Cost of Goods Sold} = 2.7 \times \$1,200,000 = \$3,240,000$$

Now, the profit increases by 10%, so the profit percentage becomes 44%.

$$\text{Thus, let } \text{Gross Profit} = x \Rightarrow \text{Sales} = \frac{1}{0.44}x \Rightarrow \text{Cost of Goods Sold} = \frac{0.56}{0.44}x$$

By equating these terms, we get

$$\text{Gross Profit} = \$2,545,714.28$$

(b)

To do this, we note that the inventory turnover becomes 3.3 (10% increase). This means that the cost of goods sold is

$$\text{Cost of Goods Sold} = 3.3 \times \$1,200,000 = \$3,960,000$$

Now, the profit decreases by 10%, so the profit percentage becomes 36%.

$$\text{Thus, let } \text{Gross Profit} = x \Rightarrow \text{Sales} = \frac{1}{0.36}x \Rightarrow \text{Cost of Goods Sold} = \frac{0.64}{0.36}x$$

By equating these terms, we get

$$\text{Gross Profit} = \$2,227,500$$

(5)

The ratios help them to understand the performance of the sales and purchases of the inventory. So, if the inventory turnover decreases, it means that fewer inventory remains or the cost of selling goods has increased, either of which indicates that more products have been sold, indicating a good sales performance.

On the other hand, coupled with the gross profit percentage, we can find the overall performance of the entire process of sales and purchases.