Solution:

(1)

(a) If LIFO is used, then the stock that was purchased latest will be used first, so the earlier stock remains.

Using this method, we see that out of 1,200 units that are left,

- 1,000 tonnes @ $9 per tonne, and
- 200 tonnes @ $10 per tonne

remains in the inventory.

This gives the valuation on July 31 as

$$\$9 \text{ x } 1{,}000 + \$10 \text{ x } 200 = \mathbf{\$11{,}000}$$

(b) If FIFO is used, then the stock that is added first will be used, and the latest one remains in the stock.

Using this method, we see that out of 1,200 units that are left,

- 800 units @ $12 per tonne, and
- 400 units @ $11 per tonne

remains in the inventory.

This gives the valuation on July 31 as

$$\$12 \text{ x } 800 + \$11 \text{ x } 400 = \mathbf{\$14{,}000}$$

(2)

In either method, the purchase was $10 x 5,000 + $11 x 1,000 + $12 x 800 = $70,600 & the beginning inventory valuation was $9,000 (1,000 tonnes @ $9), giving the cost of merchandise available for sale as $79,600.

(a) In LIFO, the ending inventory was valued at $11,000 so the cost of goods sold is $68,600. Thus, the gross profit comes out to be

$$Gross\ Profit\ (LIFO) = \$102{,}000 - \$68{,}600 = \$33{,}400$$

(b) In FIFO, the ending inventory was valued at $14,000 so the cost of goods sold is $65,600. Thus, the gross profit comes out to be

$$Gross\ Profit\ (FIFO) = \$102{,}000 - \$65{,}600 = \$36{,}400$$