Solution:

(1)

(a) Using LIFO, the valuation of the stock is given by

$$Inventory\ Cost\ (LIFO) = 800\ \times 12 + 400\ \times 11 = \$14{,}000$$

(b) Using FIFO, the valuation of the stock is given by

$$Inventory\ Cost\ (FIFO) = 1{,}000\ \times 9 + 200\ \times 10 = \$11{,}000$$

(2)

The cost of goods sold is given by the formula:

$$Cost\ of\ Goods\ Sold = Begin\ Inventory + Purchase - End\ Inventory$$

The purchase is given by:

$$Purchase = 50{,}000 + 11{,}000 + 9{,}600 = \$70{,}600$$

and the beginning inventory is

$$Begin\ Inventory = \$9{,}000$$

We can then use this to find the gross profit:

$$Gross\ Profit = Sales - Cost\ of\ Goods\ Sold$$

(a) Using LIFO, the gross profit is given by:

$$Gross\ Profit = 102{,}000 - (70{,}600 + 9{,}000 - 14{,}000) = \$36{,}400$$

(b) Using FIFO, the gross profit is given by:

$$Gross\ Profit = 102{,}000 - (70{,}600 + 9{,}000 - 11{,}000) = \$39{,}400$$