Q9-1 In a perpetual inventory system, there is a continuous record of each receipt and sale of an inventory item. Increases and decreases are recorded as debits and credits to the Merchandise Inventory account. In a periodic inventory system, the exact amount and cost valuation of inventory on hand is known only when physical counts are made at the end of each period. The balance in the Merchandise Inventory account is changed only at the time of physical Count. Another major difference is that Cost of Goods Sold is an account title under the perpetual system. Under the periodic system, the cost of goods sold is determined by computation.

The perpetual inventory system does not eliminate the need for a physical inventory count. To achieve proper internal control over inventory, a periodic Count is needed to verify the accuracy of the perpetual records and to correct them where necessary.

Q9-2 The method of inventory valuation is not related to the physical flow of goods. Therefore, although a fresh fruit store would try to sell the first cases of fruit received first, any of the cost flow assumptions may be used for inventory costing purposes.

Q9-3 a. Because prices have risen, the LIFO assumption assigns the oldest (and lower) costs to the balance sheet and the newest (and higher) costs to cost of goods sold. The result is a net income and a current asset valuation that are lower than FIFO.

b. Because prices have fallen, the LIFO assumption assigns the oldest (and higher) costs to the balance sheet and the newest (and lower) costs to cost of goods sold. The result is a net income and current asset valuation that are higher than FIFO.
Q9-4 Under LIFO, the valuations of the cost of goods sold and ending inventory may differ under periodic and perpetual systems. Costs at the beginning of the period are assumed to be in ending inventory with the periodic inventory system, whereas they may have been dropped from the running balance as sales or issues are recorded during the accounting period with the perpetual inventory system.

Under FIFO, the goods on hand are valued at the cost of the most recently acquired units, regardless of whether a periodic or perpetual inventory system is used. The cost of goods sold, therefore, consists of the costs of the first units, which are the same regardless of whether the inventory is costed at the end of the accounting period under a periodic basis or during the accounting period under a perpetual basis.

Q9-5 a. Net sales would be the same under all of the inventory costing methods because revenues are not affected by the methods.
   b. FIFO would yield the highest amount of gross margin during a period of rising prices, since the cost of goods sold would be comprised of older, lower costs.
   c. FIFO would yield the highest amount of reported net income, since cost of goods sold would be the lowest.
   d. FIFO would result in the most current value for inventory on the balance sheet, since inventory would be shown at recent higher costs.
   e. LIFO would result in the lowest amount of income taxes for the owners, since it would yield the lowest amount of reported net income in a period of rising prices (assuming that no liquidations of previous LIFO layers occurred).

Q9-6 The method chosen for inventory costing affects the determination of net income on the income statement because the ending inventory amount is deducted from the cost of goods available for sale to determine the cost of goods sold. For many businesses, cost of goods sold is a major expense item. Because net income is ultimately transferred to owners' capital, the inventory costing method also affects the amount of owners' equity on the balance sheet. Finally, ending inventory appears as a current asset on the balance sheet and therefore affects amounts shown for both current assets and total assets.

Q9-7 Because the choice of inventory cost flow method affects determination of both cost of goods sold on the income statement and ending inventory on the balance sheet, it is not possible to optimize the presentation on both financial statements. According to generally accepted accounting principles, the major objective in assigning a cost to inventory is the matching of appropriate costs against revenues. This means that the inventory costing method used should provide the most representative figure for cost of goods sold on the income statement to yield a more accurate net income figure. As a result, the amount shown on the balance sheet for inventory may not be reflective of its current value.

Q9-8 "Market" as used in LCM valuation is the replacement cost of an item through the normal channels and in the normal purchase lot size. A business would price an inventory at LCM because items that can be replaced at a lower cost are not
reflecting a realistic inventory valuation. Practically, a reduction in ending inventory valuation increases cost of goods sold, leading to a lower net income. This would lead to lower income taxes for the owner.

Q9-9 Both methods are used to compute an estimate of inventory using cost as a percent of sales. The gross margin method uses a historical cost percent. The retail method uses a current cost percent. The retail method requires additional information, since all purchases must be recorded both at cost and selling price.

Q9-10 The net income of 2011 is overstated by $7,000 because the higher ending inventory figure reduces the cost of goods sold. The beginning inventory of 2012 will be overstated by $7,000, causing the 2012 net income to be understated by that amount. Over the two-year period, the two errors cancel each other. Therefore, ending inventory and owners' equity at the end of 2012 will be correctly stated.

Q9-11 If the selected method of inventory valuation were changed from year to year, both net income and total asset amounts would not be comparable. Income could be managed simply by changing assumptions about cost flow. Strict compliance with the principle of consistency does not preclude a change from FIFO to LIFO if the change is disclosed in a note to the financial statements.

Q9-12 **If Inventory Is:**
- Overstated at end of year 1
- Understated at end of year 1

**Net income Is:**
- Overstated in year 1, but understated in year 2.
- Understated in year 1, but overstated in year 2.

---

**Solutions to Exercises**

E9-13 Computation of Inventory Cost

LG 1

50 dresses x $300 $15,000
Deduct: Cash discount ($15,000 x 0.02) 300
Net cost of dresses $14,700
Add: Shipping and insurance 200
Total cost of dresses $14,900
E9-14 Journal Entries for Periodic and Perpetual Inventory Systems
LG 2

a. Periodic Inventory System

GENERAL JOURNAL

2011
May 4 Purchases
   Accounts Payable, AddFast Company
   Purchases on account. 1,000
   Accounts Payable, AddFast Company
   Purchases Returns and Allowances
   Returns of defective merchandise. 50
8 Accounts Receivable
   Sales
   Sales on account. 900
14 Accounts Payable, AddFast Company
   Cash
   Payments on account. 950

b. Perpetual Inventory System

GENERAL JOURNAL

2011
May 4 Merchandise Inventory
   Accounts Payable, AddFast Company
   Purchases on account. 1,000
   Accounts Payable, AddFast Company
   Merchandise Inventory
   Returns of defective merchandise. 50
8 Accounts Receivable
   Sales
   Sales on account. 900
8 Cost of Goods Sold
   Merchandise Inventory
   Cost of merchandise sold (180 x $2). 360
14 Accounts Payable, AddFast Company
   Cash
   Payments on account. 950
E9-15 Income Statement Using Specific Identification
LG 3

CYNTHIA COMPANY
Income Statement
For the Month Ended October 31, 2011

Sales $75,000
Cost of goods sold (machines 1 and 3) 31,000
Gross margin on sales $44,000

E9-16 Income Determination Using Specific Identification
LG 3

CYNTHIA COMPANY
Income Statement
For the Month Ended October 31, 2011

Sales $75,000
Cost of goods sold (machines 2 and 3) 43,000
Gross margin on sales $32,000

Selling machine no. 2 instead of machine no. 1 would cause gross margin on sales to decrease by $12,000.

Instructor note: This exercise points out the arbitrary nature of income determination using the specific identification method and also how gross margin under this method could be manipulated by selecting higher or lower cost items of similar inventory items to reflect a smaller or larger reported net income.

E9-17 Inventory Valuation and Cost of Goods Sold Assuming FIFO and LIFO
LG 3

Basic computations: determination of (1) cost of goods available for sale, (2) units sold, and (3) units in ending inventory.

<table>
<thead>
<tr>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>$3</td>
<td>$300</td>
</tr>
<tr>
<td>40</td>
<td>5</td>
<td>200</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
<td>360</td>
</tr>
<tr>
<td>50</td>
<td>8</td>
<td>400</td>
</tr>
<tr>
<td>250</td>
<td></td>
<td>$1,260</td>
</tr>
</tbody>
</table>

1. Total goods available for sale
E9-17 (continued)

Sales:

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 10</td>
<td>50</td>
</tr>
<tr>
<td>July 20</td>
<td>30</td>
</tr>
<tr>
<td>July 29</td>
<td>40</td>
</tr>
</tbody>
</table>

2. Total units sold 120

3. Inventory, July 31 130

a. FIFO on a Periodic Basis

**FIFO Ending Inventory Valuation (130 units)**

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 27 purchase</td>
<td>50</td>
<td>$8</td>
<td>$400</td>
</tr>
<tr>
<td>July 17 purchase</td>
<td>60</td>
<td>$6</td>
<td>$360</td>
</tr>
<tr>
<td>July 11 purchase</td>
<td>20</td>
<td>$5</td>
<td>$100</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>130</td>
<td></td>
<td>$860</td>
</tr>
</tbody>
</table>

**FIFO Cost of Goods Sold (120 units)**

Cost of goods available for sale (250 units) $1,260
Deduct: Ending inventory at FIFO (130 units) 860
Cost of goods sold $400

b. LIFO on a Periodic Basis

**LIFO Ending Inventory Valuation (130 units)**

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1 Inventory</td>
<td>100</td>
<td>$3</td>
<td>$300</td>
</tr>
<tr>
<td>July 11 purchase</td>
<td>30</td>
<td>$5</td>
<td>$150</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>130</td>
<td></td>
<td>$450</td>
</tr>
</tbody>
</table>

**LIFO Cost of Goods Sold (120 units)**

Cost of goods available for sale (250 units) $1,260
Deduct: Ending inventory at LIFO (130 units) 450
Cost of goods sold $810
### FIFO Assumption

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th>Sold</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit Cost</td>
<td>Total Cost</td>
</tr>
<tr>
<td>2011 Jun. 1</td>
<td>Balance on hand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>300</td>
<td>24,000</td>
</tr>
<tr>
<td>11</td>
<td>100</td>
<td>290</td>
<td>29,000</td>
</tr>
<tr>
<td>14</td>
<td>70</td>
<td>310</td>
<td>21,700</td>
</tr>
<tr>
<td>18</td>
<td>90</td>
<td>315</td>
<td>28,350</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
<td>315</td>
<td>9,000</td>
</tr>
<tr>
<td>25</td>
<td>95</td>
<td>325</td>
<td>30,875</td>
</tr>
<tr>
<td>28</td>
<td>40</td>
<td>310</td>
<td>12,400</td>
</tr>
<tr>
<td>Totals</td>
<td>335</td>
<td>104,925</td>
<td>380</td>
</tr>
</tbody>
</table>
## LIFO Assumption

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th>Sold</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit Cost</td>
<td>Total Cost</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun. 1</td>
<td>1</td>
<td>Balance on hand</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>80</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>{ 80 300 24,000 }</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>70</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>90</td>
<td>315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>60</td>
<td>315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>95</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>{ 95 325 30,875 }</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>335</td>
<td>104,925</td>
</tr>
</tbody>
</table>
E9-19 Inventory Valuation and Cost of Goods Sold Assuming Weighted Average
LG 3

Basic Computations: Determination of (1) cost of goods available for sale, (2) units sold, and (3) units in ending inventory

<table>
<thead>
<tr>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units on hand, April 1</td>
<td>200</td>
<td>$1.20</td>
</tr>
<tr>
<td>Purchases:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 4</td>
<td>400</td>
<td>1.40</td>
</tr>
<tr>
<td>13</td>
<td>300</td>
<td>1.50</td>
</tr>
<tr>
<td>25</td>
<td>100</td>
<td>1.60</td>
</tr>
<tr>
<td>1. Total goods available for sale</td>
<td>1,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales:</td>
<td></td>
</tr>
<tr>
<td>April 8</td>
<td>240</td>
</tr>
<tr>
<td>11</td>
<td>120</td>
</tr>
<tr>
<td>19</td>
<td>200</td>
</tr>
<tr>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td>2. Total units sold</td>
<td>660</td>
</tr>
<tr>
<td>3. Inventory, July 31</td>
<td>340</td>
</tr>
</tbody>
</table>

Weighted average unit cost = \( \frac{\$1,410}{1,000} \) = $1.41

a. Weighted Average Ending Inventory Valuation (340 units):

At weighted average unit cost, 340 units at $1.41 \( \quad \$479.40 \)

b. Weighted Average Cost of Goods sold (660 units):

Cost of goods available for sale (1,000 units) \( \quad \$1,410.00 \)
Deduct: Ending inventory at weighted average (340 units) \( \quad 479.40 \)
Cost of goods sold \( \quad \$930.60 \)
E9-20 Recordkeeping with Perpetual Inventory Using Moving Average
LG 4

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th></th>
<th></th>
<th>Sold</th>
<th></th>
<th></th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit</td>
<td>Total</td>
<td>Qty.</td>
<td>Unit</td>
<td>Total</td>
<td>Qty.</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>Cost</td>
<td>Cost</td>
<td></td>
<td>Cost</td>
<td>Cost</td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>1</td>
<td>Balance on hand</td>
<td>100</td>
<td>3.00</td>
<td>300</td>
<td>3.00</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>200</td>
<td>4.00</td>
<td>800</td>
<td>200</td>
<td>3.00</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>300</td>
<td>3.50</td>
<td>1,050</td>
<td>400</td>
<td>3.50</td>
<td>1,400</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>300</td>
<td>4.70</td>
<td>1,050</td>
<td>100</td>
<td>3.50</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>400</td>
<td>5.00</td>
<td>2,000</td>
<td>500</td>
<td>4.70</td>
<td>2,350</td>
</tr>
<tr>
<td>Totals</td>
<td>600</td>
<td>2,800</td>
<td>400</td>
<td>1,350</td>
<td>500</td>
<td>2,350</td>
<td></td>
</tr>
</tbody>
</table>

E9-21 Effect of Inventory Cost Flow Assumptions on Income Statement
LG 3, 5

a. FIFO

NUTMEG COMPANY
Income Statement
For the Year Ended December 31, 2011

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (250 x $1,000)</td>
<td>$250,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
</tr>
<tr>
<td>Merchandise inventory, January 1, 2011</td>
<td>$0</td>
</tr>
<tr>
<td>Purchases (400 x $600)</td>
<td>$240,000</td>
</tr>
<tr>
<td>Goods available for sale</td>
<td>$240,000</td>
</tr>
<tr>
<td>Deduct: Merchandise inventory</td>
<td></td>
</tr>
<tr>
<td>December 31, 2011 (150 x $600)</td>
<td>$90,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>$150,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$100,000</td>
</tr>
<tr>
<td>Deduct: Operating expenses</td>
<td>$50,000</td>
</tr>
<tr>
<td>Net income before income taxes</td>
<td>$50,000</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>$15,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$35,000</td>
</tr>
</tbody>
</table>

9-10
E9-21 (continued)

NUTMEG COMPANY
Income Statement
For the Year Ended December 31, 2012

Sales (400 x $1,000) $ 400,000
Cost of goods sold:
  Merchandise inventory, January 1, 2012 $ 90,000
  (150 x $600)
  Purchases (350 x $800) 280,000
  Goods available for sale $ 370,000
  Deduct: Merchandise inventory,
  December 31, 2012 (100 x $800) 80,000
  Cost of goods sold 290,000
Gross margin $ 110,000
Deduct: Operating expenses 50,000
Net income before income taxes $ 60,000
Income tax expense 18,000
Net income $ 42,000

b. LIFO

NUTMEG COMPANY
Income Statement
For the Year Ended December 31, 2011

Sales (250 x $1,000) $ 250,000
Cost of goods sold:
  Merchandise inventory, January 1, 2011 $ 0
  Purchases (400 x $600) 240,000
  Goods available for sale $ 240,000
  Deduct: Merchandise inventory,
  December 31, 2011 (150 x $600) 90,000
  Cost of goods sold 150,000
Gross margin $ 100,000
Deduct: Operating expenses 50,000
Net income before income taxes $ 50,000
Income tax expense 15,000
Net income $ 35,000
E9-21 (continued)

NUTMEG COMPANY
Income Statement
For the Year Ended December 31, 2012

Sales (400 x $1,000) $ 400,000
Cost of goods sold:
  Merchandise inventory, January 1, 2012
    (150 x $600) $ 90,000
  Purchases (350 x $800) 260,000
  Goods available for sale $ 370,000
  Deduct: Merchandise inventory,
    Dec. 31, 2012 (100 x $600) 60,000
    Cost of goods sold 310,000
  Gross margin $ 90,000
  Deduct: Operating expenses 50,000
  Net income before income taxes $ 40,000
  Income tax expense 12,000
  Net income $ 28,000

For 2011, both FIFO and LIFO valuation of ending inventory produce the same results, because there was no beginning inventory and all units purchased were at the same price of $600 each. Therefore, the cost of all goods available for sale consisted of units with the same $600 cost per unit.

In 2012, the cost to purchase computers increased from $600 per unit to $800 per unit. LIFO valuation results in a better matching of current revenues and current costs. Therefore, the net income figure under LIFO ($28,000) is more realistic than the number under FIFO ($42,000).

9-22 Three LCM Valuations and Effect on Gross Margin
LG 6

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Market</th>
<th>Lower-of-Cost-or-Market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unit</td>
</tr>
<tr>
<td>Frames:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type F-1</td>
<td>$ 1,300</td>
<td>$ 1,500</td>
<td>$ 1,300</td>
</tr>
<tr>
<td>Type F-12</td>
<td>5,200</td>
<td>5,400</td>
<td>5,200</td>
</tr>
<tr>
<td>Type F-15</td>
<td>1,260</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>Class total</td>
<td>$ 7,760</td>
<td>$ 8,100</td>
<td>$ 7,760</td>
</tr>
<tr>
<td>Spring (sets):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type S-1</td>
<td>$ 3,000</td>
<td>$ 4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Type S-12</td>
<td>10,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Type S-15</td>
<td>2,400</td>
<td>1,800</td>
<td>1,800</td>
</tr>
<tr>
<td>Class total</td>
<td>$15,400</td>
<td>$14,800</td>
<td>$14,800</td>
</tr>
<tr>
<td>Totals</td>
<td>$23,160</td>
<td>$22,900</td>
<td>$21,500</td>
</tr>
</tbody>
</table>

9-12
E9-22 (continued)

In this situation, the application of LCM (on any of the three bases) will decrease gross margin in the current year. It will bring a lower beginning inventory into the following year. This will increase the second year’s gross margin.

The unit basis will have the above effect with the greatest dollar amount. The total inventory basis will have the least effect. The class basis will fall between the two.

E9-23 Estimation of Inventory by Gross Margin Method
LG 7

Goods available for sale:
Inventory, June 1, 2011 $ 80,000
Purchases  $160,000
Add: Transportation in  1,000
Deduct: Purchases returns and allowances (2,000)  159,000
Total goods available for sale $ 239,000

Estimated cost of goods sold:
Sales $280,000
Deduct: Sales returns and allowances (4,000)
Net sales $276,000
Multiply by cost of goods percent x 0.60
Estimated cost of goods sold 165,600
Estimated inventory, June 22, 2011 $ 73,400

E9-24 Estimation of Inventory by the Retail Method
LG 7

<table>
<thead>
<tr>
<th>Cost</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 75,000</td>
<td>$ 100,000</td>
</tr>
<tr>
<td>$ 415,000</td>
<td>$ 600,000</td>
</tr>
<tr>
<td>$ 490,000</td>
<td>$ 700,000</td>
</tr>
</tbody>
</table>

Cost to retail percent:

\[
\frac{\$490,000}{\$700,000} = 70\%
\]

Ending inventory at retail:
Deduct: Net sales 520,000
Ending inventory at retail $180,000
Estimated ending inventory at cost ($180,000 x 0.70) $126,000

9-13
E9-25 Inventory Errors
LG 8


2011       2012
Purchases
Cost of sales  -4,000  +4,000
Gross margin  +4,000  -4,000
Inventory (end-of-year balance sheet)  +4,000  0
Owner's equity (end-of-year)  +4,000  0

SOLUTIONS TO PROBLEMS

P9-26 Journal Entries for a Perpetual inventory System
LG 2

Requirement 1.

GENERAL JOURNAL

2011
Jan.  31 Merchandise Inventory  380,000  380,000
     Accounts Payable
     Purchases on account.

     31 Accounts Payable  6,000  6,000
     Merchandise Inventory
     Returns of defective merchandise.

     31 Operating Expenses  140,000  140,000
     Cash
     Payments in cash.

     31 Accounts Receivable  490,000  490,000
     Sales
     Sales on account.

     31 Cost of Goods Sold  270,000  270,000
     Merchandise Inventory
     Sales at cost per stock records.
P9-26 (continued)

Requirement 2.

GENERAL JOURNAL

2011
Jan. 31   Sales  490,000
           Income Summary  490,000
           To close revenue account.

31   Income Summary  410,000
     Cost of Goods Sold  270,000
     Operating Expenses  140,000
     To close cost of goods sold and expenses.

31   Income Summary  80,000
     Retained Earnings  80,000
     To close net income to Retained Earnings.

P9-27 Computation of inventory and Cost of Goods Sold: Periodic Inventory System
LG 3

Requirement 1.

Weighted Average

Weighted average unit cost = \( \frac{\$4,800}{4,000} \) = $1.20.

Weighted Average Ending Inventory Valuation (1,600 units)

At weighted average unit cost, 1,600 units at $1.20  $1,920

Weighted Average Cost of Goods Sold (2,400 units)

Cost of goods available for sale (4,000 units).  $4,800
Deduct: Ending inventory at weighted average (1,600 units).  1,920
Cost of goods sold  $2,880

9-15
P9-27 (continued)

Requirement 2.

FIFO

**FIFO Ending Inventory Valuation**
*(1,600 units)*

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2 purchase</td>
<td>1,000</td>
<td>$1.45</td>
<td>$1,450</td>
</tr>
<tr>
<td>August 20 purchase</td>
<td>600</td>
<td>1.25</td>
<td>750</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>1,600</td>
<td></td>
<td>$2,200</td>
</tr>
</tbody>
</table>

**FIFO Cost of Goods Sold**
*(2,400 units)*

- Cost of goods available for sale (4,000 units) $4,800
- Deduct: Ending inventory at FIFO (1,600 units) $2,200
- Cost of goods sold $2,600

Requirement 3.

LIFO

**LIFO Ending Inventory Valuation**
*(1,600 units)*

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1 inventory</td>
<td>800</td>
<td>$1.00</td>
<td>$800</td>
</tr>
<tr>
<td>January 3 purchase</td>
<td>700</td>
<td>1.05</td>
<td>735</td>
</tr>
<tr>
<td>April 5 purchase</td>
<td>100</td>
<td>1.15</td>
<td>115</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>1,600</td>
<td></td>
<td>$1,650</td>
</tr>
</tbody>
</table>

**LIFO Cost of Goods Sold**
*(2,400 units)*

- Cost of goods available for sale (4,000 units) $4,800
- Deduct: Ending inventory at LIFO (1,600 units) $1,650
- Cost of goods sold $3,150
P9-28 Recordkeeping with Perpetual Inventory
LG 4

Requirement 1.

**Moving Average**

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th>Sold</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit Cost</td>
<td>Total Cost</td>
</tr>
<tr>
<td>2011 May 1</td>
<td>Balance on hand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>160</td>
<td>8.75</td>
<td>1,400</td>
</tr>
<tr>
<td>10</td>
<td>80</td>
<td>9.00</td>
<td>720</td>
</tr>
<tr>
<td>Totals</td>
<td>240</td>
<td>2,120</td>
<td>340</td>
</tr>
</tbody>
</table>

Ending inventory = $892.
Cost of goods sold = $2,828.

**Requirement 2.**

**FIFO**

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th>Sold</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit Cost</td>
<td>Total Cost</td>
</tr>
<tr>
<td>2011 May 1</td>
<td>Balance on hand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>160</td>
<td>8.75</td>
<td>1,400</td>
</tr>
<tr>
<td>10</td>
<td>140</td>
<td>8.75</td>
<td>1,225</td>
</tr>
<tr>
<td>24</td>
<td>80</td>
<td>9.00</td>
<td>720</td>
</tr>
<tr>
<td>Totals</td>
<td>240</td>
<td>2,120</td>
<td>340</td>
</tr>
</tbody>
</table>

Ending inventory = $895.
Cost of goods sold = $2,825.
**P9-28 (continued)**

**Requirement 3.**

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchased</th>
<th></th>
<th>Sold</th>
<th></th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty.</td>
<td>Unit Cost</td>
<td>Total Cost</td>
<td>Qty.</td>
<td>Unit Cost</td>
</tr>
<tr>
<td>2011 May</td>
<td>1</td>
<td>Balance on hand</td>
<td>160</td>
<td>8.00</td>
<td>1,280</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td></td>
<td>40</td>
<td>8.00</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>160</td>
<td>8.75</td>
<td>1,400</td>
<td>{</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>{</td>
<td>160</td>
<td>8.75</td>
<td>1,400</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>80</td>
<td>9.00</td>
<td>720</td>
<td>{</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>9.00</td>
<td>880</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>240</td>
<td>2,120</td>
<td>340</td>
<td>2,840</td>
<td>100</td>
</tr>
</tbody>
</table>

Ending inventory = $880.  
Cost of goods sold = $2,840.

**P9-29 Effect of Cost Flow Assumptions on Financial Statements in a Period of Rising Prices**

Basic Computations: determination of (1) cost of goods available for sale, (2) units sold, and (3) units in ending inventory

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>July 1</td>
<td>3,000</td>
<td>$16</td>
<td>$48,000</td>
</tr>
<tr>
<td>13</td>
<td>2,000</td>
<td>20</td>
<td>40,000</td>
</tr>
<tr>
<td>22</td>
<td>2,500</td>
<td>24</td>
<td>60,000</td>
</tr>
</tbody>
</table>

1. Total goods available for sale: 7,500 $148,000

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales:</td>
<td></td>
</tr>
<tr>
<td>July 10</td>
<td>1,800</td>
</tr>
<tr>
<td>17</td>
<td>2,000</td>
</tr>
<tr>
<td>29</td>
<td>2,200</td>
</tr>
</tbody>
</table>

2. Total units sold: 6,000

3. Inventory, July 31: 1,500

9-18
P9-29 (continued)

Requirement 1a.

FIFO

FIFO Ending Inventory Valuation
(1,500 units)

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 22 purchase</td>
<td>1,500</td>
<td>$ 24</td>
<td>$ 36,000</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>1,500</td>
<td></td>
<td>$ 36,000</td>
</tr>
</tbody>
</table>

FIFO Cost of Goods Sold
(6,000 units)

Cost of goods available for sale (7,500 units) $148,000
Deduct: Ending inventory at FIFO (1,500 units) 36,000
   Cost of goods sold $112,000

Requirement 1b.

LIFO Ending Inventory Valuation
(1,500 units)

<table>
<thead>
<tr>
<th>Purchase Lot</th>
<th>Units</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1 purchase</td>
<td>1,500</td>
<td>$ 16</td>
<td>$ 24,000</td>
</tr>
<tr>
<td>Ending inventory</td>
<td>1,500</td>
<td></td>
<td>$ 24,000</td>
</tr>
</tbody>
</table>

LIFO Cost of Goods Sold
(6,000 units)

Cost of goods available for sale (7,500 units) $148,000
Deduct: Ending inventory at LIFO (1,500 units) 24,000
   Cost of goods sold $124,000
Requirement 2.

**BALTIC COMPANY**
Comparative Income Statement
For the Month Ended June 30, 2011

<table>
<thead>
<tr>
<th></th>
<th>FIFO</th>
<th>LIFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (6,000 x $30)</td>
<td>$180,000</td>
<td>$180,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>112,000</td>
<td>124,000</td>
</tr>
<tr>
<td>Gross margin on sales</td>
<td>$ 68,000</td>
<td>$ 56,000</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Net income before income taxes</td>
<td>$ 28,000</td>
<td>$ 16,000</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>8,400</td>
<td>4,800</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$ 19,600</td>
<td>$ 11,200</td>
</tr>
</tbody>
</table>

**BALTIC COMPANY**
Comparative Balance Sheets
June 30, 2011

<table>
<thead>
<tr>
<th></th>
<th>FIFO</th>
<th>LIFO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$63,600*</td>
<td>$67,200**</td>
</tr>
<tr>
<td>Merchandise inventory</td>
<td>36,000</td>
<td>24,000</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>$99,600</td>
<td>$91,200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FIFO</th>
<th>LIFO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liabilities and owners' equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common stock</td>
<td>$ 80,000</td>
<td>$ 80,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>19,600</td>
<td>11,200</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>$99,600</td>
<td>$91,200</td>
</tr>
</tbody>
</table>

*80,000 + 180,000 - 48,000 - 40,000 - 60,000 - 40,000 - 8,400.

**80,000 + 180,000 - 48,000 - 40,000 - 60,000 - 40,000 - 4,800.

Requirement 3.

The different methods yield different results because the cost of the product is rising with each purchase. The earlier and less expense items are assumed to be included in cost of goods sold under FIFO. The reverse is true of LIFO; the cost of goods sold is assumed to consist of the latest and more expensive items.

Requirement 4.

Baltic Company should choose the method of inventory valuation that most accurately reflects net income. There are good grounds on which to argue that LIFO states cost of goods sold at a dollar amount that is more consistent with the cost of replacing those items in inventory. They should also consider income taxes. LIFO will produce a lower taxable income and a lower tax.
P9-29 (continued)

Requirement 5.

The recommended method depends on Baltic Company’s goals and on predicted future trends. If their goal is to reduce income tax, they should use LIFO. If their goal is to report higher net income, they should use FIFO. They must consider carefully the predicted future price trend of this item: if prices fall, the FIFO/LIFO effect on income is reversed. Once they have adopted a method, the principle of consistency requires that they continue to use it unless there is a good reason to change.

Requirement 6.

Yes, it is true that FIFO reflects profits that are higher than other methods in a period of rising prices. These are sometimes called “phantom profits” because items sold must be replaced at a higher cost. It is important to note that the method of inventory costing does change the cash inflows or outflows of a business after income taxes.

P9-30 Estimation of Inventory by the Gross Margin and Retail Inventory Methods
LG 7

Requirement 1.

Company A

Goods available for sale:
  - Inventory, September 1, 2011 $ 180,000
  - Purchases (net) 600,000
Total goods available for sale $ 780,000

Estimated cost of goods sold:
  - Net sales $ 900,000
  - Multiply by cost of goods percent x 0.75
Estimated cost of goods sold 675,000
Estimated inventory, September 30, 2011 $ 105,000

Requirement 2.

Company B

Goods available for sale:
  - Inventory, June 1, 2011 $ 72,000 $ 180,000
  - Add: Net purchases 278,000 520,000
Total goods available for sale $ 350,000 $ 700,000

Cost to retail percent:

\[
\frac{350,000}{700,000} = 50\%
\]
Ending inventory at retail:
  Deduct: Net sales 610,000
  $90,000
Ending inventory at retail
Estimated ending inventory at cost ($90,000 x 0.50) $45,000

P9-31 Effect of Overstatement of Ending Inventory and Failure to Record Purchases
LG 8

Requirement 1.

MOZART COMPANY
Income Statement
For the Year Ended December 31, 2011

Sales $75,000
Cost of goods sold:
  As reported $41,000
  Add: Error due to overstatement of ending inventory 3,000
  Adjusted cost of goods sold 44,000
Gross margin $31,000
Deduct: Operating expenses 20,000
Net income before income taxes $11,000

Instructor's Note: The failure to record purchases in the amount of $5,000 in 2011 is counterbalanced by the failure to record the same amount as part of the ending inventory. Therefore, there is no net effect on cost of goods sold for 2011.

MOZART COMPANY
Income Statement
For the Year Ended December 31, 2012

Sales $80,000
Cost of goods sold:
  As reported $52,000
  Deduct: Error due to overstatement of beginning inventory 3,000
  Adjusted cost of goods sold 49,000
Gross margin $31,000
Deduct: Operating expenses 20,000
Net income before income taxes $11,000

Instructor's Note: There is no net effect on cost of goods sold for 2012 for the error in recording the purchase of the $5,000. It is now properly included as part of cost of goods available for sale.
P9-31 (continued)

Requirement 2.

December 31, 2011:

a. Merchandise inventory is understated by $2,000 ($3,000 of inventory recorded twice less $5,000 of inventory not recorded).
b. Accounts payable is understated by $5,000 due to the failure to properly record the $5,000 purchase.
c. Owners’ equity is overstated by $3,000 due to the error in recording the $3,000 of inventory twice.

December 31, 2012:

a. no effect.
b. no effect.
c. no effect.

P9-32 Effect of Inventory Errors
LG 8

Requirement 1.

The 2011 net income was understated by $150,000. This was the amount not subtracted in arriving at cost of goods sold for 2011. This overstated cost of goods sold and understated net income.

Requirement 2.

Since the 2011 beginning inventory was understated, the net income for that year was overstated. The amount was partially offset by the interest and transportation cost as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overstatement of net income due to inventory error</td>
<td>$150,000</td>
</tr>
<tr>
<td>Deduct: Interest expense ($150,000 x .12 x 3/12)</td>
<td>$4,500</td>
</tr>
<tr>
<td>Transportation cost</td>
<td>620</td>
</tr>
<tr>
<td>Overstatement of 2012 net income</td>
<td>5,120</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement 3.</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortage in increase to owners’ equity in 2011</td>
<td>$150,000</td>
</tr>
<tr>
<td>Deduct: Erroneous increase to owners’ equity in 2012</td>
<td>144,880</td>
</tr>
<tr>
<td>Net decrease to owners’ equity</td>
<td>5,120</td>
</tr>
</tbody>
</table>
Although the inventory errors cancel each other over the two-year period, the unnecessary interest and transportation expense result in permanent loss of owners' equity.

P9-33 Comprehensive Analysis of Inventory for Olin Corporation

1. $155.2 million = ($131.4 million + $23.8 million)

2. The current value of $155.2 million.

3. $7.14 million = ($23.8 million x 0.30)

4. $1.92 million = [($23.8 million - $17.4 million) x 0.30]

5. a. Lower (Old costs are now charged out).
   
   b. Higher (Lower costs of goods sold means higher net income).
   
   c. Higher (Higher income means higher income taxes).

P9-34 Comprehensive Analysis of Inventory for American Biltrite

1. Since American Biltrite uses LIFO for a large portion of inventories and there have been no LIFO liquidations, the amount for cost of goods sold represents the approximate current value of the goods. Under LIFO, the last, most recent costs are transferred out first. Therefore, the matching of revenues and current costs is good.

2. 78% ($292.5 million ÷ $375.1 million)
   
   If there had been a LIFO liquidation, old and lower costs would have been transferred out and the cost of goods sold percentage would be lower.

3. $95.5 million = ($79.1 million + $16.4 million)

4. The total current value of the inventory, $95.5 million.

5. $4.92 million ($16.4 million x 0.30)
Comparison of Inventory Cost Flow Methods for Pennzoil Company with Competing Oil Companies

LG 9

Following is a typical student response to this communications problem; actual responses may vary in content and style but should contain as much of this basic information as possible.

TO: Fran Graham
FROM: Student
SUBJECT: Inventory Methods: Comparison of Pennzoil Company and competing firms

Pennzoil Company uses LIFO for substantially all inventories. In using LIFO during a period of rising prices, it charges out the latest (highest) costs to cost of goods sold on the income statement. It includes the oldest (lowest) costs in ending inventory valuation. For Pennzoil Company, the cumulative impact of using LIFO is significant. The LIFO inventory amount shown on the balance sheet ($156,400,000) is understated by $14,300,000 in terms of its current value ($170,700,000).

Ways in which the amounts shown in the financial statements may not be comparable for Pennzoil and its competitors in a period of rising prices are:

1. Cost of goods sold. Cost of goods sold for Pennzoil Company are higher since more recent, higher costs are assigned to cost of goods sold under LIFO. This assumes that Pennzoil did not have any LIFO liquidations during the current year.
2. Net income. Net income for Pennzoil Company is less because cost of goods sold is higher under LIFO.
3. Income tax expense. Income tax expense for Pennzoil Company is less because income before taxes is less under LIFO.
4. Current assets. Current assets for Pennzoil Company are less because inventory is stated at relatively old, low costs. This will be partially offset by the increased cash resulting from lower income taxes paid under LIFO.
5. Owners’ equity. Owners’ equity for Pennzoil Company is less because income determined under LIFO over the years is lower than income determined under FIFO assuming a period of rising prices.
Managing Reported Net Income under LIFO

LG 5

Individual responses to ethical dilemmas will vary. The technical and ethical issues raised in the following response are central to this dilemma; look for them in students' answers and be prepared to discuss them with students in class.

The motivation behind the president's request is to increase reported net income for 2011. By not purchasing inventory during December, the low cost of the old units in inventory will be costed out as the inventory levels are decreased. This is called a LIFO liquidation. The impact of a LIFO liquidation on reported net income can be very significant for firms using LIFO for a long period during which prices increase.

Your response should state that although not illegal, the LIFO liquidation has several negative aspects. First, income taxes for 2011 will increase significantly as the Company has to pay taxes on the higher income. This will necessitate a cash outflow for the company. Second, if the impact of the LIFO liquidation is significant, it should be disclosed in a note in the annual financial report. Users of the company's financial report will know that the continued profitability of the company for 2011 is due to managing LIFO inventories as opposed to real economic growth. As a result, this course of action may not be in the best interests of the company or its owners.

Income Statement Responses:

1. Total revenues in 2008 ($4,774,300,000) are lower than the total for 2006 ($5,845,000,000).

2. The percent decrease in total revenues from 2006 to 2008 is:

\[
(18.3\%) = 100 \times \frac{\$1,070,700,000^*}{\$5,845,000,000} \quad \text{or} \quad \$4,774,300,000 - \$5,845,000,000
\]

Total revenues decreased 18.3% from 2006 to 2008.

3. The cost of goods sold percent decreased slightly from 59.6% in 2006 to 59.5% in 2008. As a result, the gross margin percent increased from 40.4% in 2006 to 40.5% in 2008. This is a favorable trend.

4. The percentage of total operating expenses to total revenues increased from 30.5% in 2006 to 30.7% in 2008. This is unfavorable. The operating income percent decreased from 9.9% in 2006 to 9.8% in 2008. This is an unfavorable trend.
Comprehensive Analysis Case (continued)

5. The percent of net income to total revenues increased from 6.2% in 2006 to 8.1% in 2008. This is a favorable trend.

Balance Sheet Responses:
6. Total assets at December 31, 2008 ($10,416,600,000) are lower than the total at December 31, 2006 ($11,603,400,000).

7. The percent decrease in total assets from December 31, 2006 to December 31, 2008 is:

\[
(10.2\%) = 100 \times \frac{\$1,186,800,000}{\$11,603,400,000} \times \ast \$10,416,600,000 - \$11,603,400,000
\]

As with total revenues, total assets have decreased over the three-year period.

8. The largest asset investment for the company is intangibles and goodwill. This item makes up 50.1% of the company's assets at the end of the most recent year.

9. The percent decrease in property and equipment between 2006 and 2008 is:

\[
(46.2\%) = 100 \times \frac{\$1,119,600,000}{\$2,421,500,000} \times \ast \$1,301,900,000 - \$2,421,500,000
\]

Property, plant and equipment decreased by (46.2)% compared to a decrease in total revenues of (18.3)%. This is favorable. Property and equipment are decreasing at a faster rate than total revenues.

10. On the balance sheet, refer to the common-size percent for total liabilities each year. The percent of liabilities has decreased from 49.9% of total assets in 2006 to 42.6% in 2008. This is favorable.

Integrative Income Statement and Balance Sheet:
11. This company is operating less efficiently in 2008 than in 2007. We conclude this by comparing the total asset turnover for the two years that decreased from 0.49 times in 2007 to 0.40 times in 2008. Each dollar of investment in assets generated a lower amount of revenues in 2008 than in 2007. This is unfavorable.

Ratio Analysis Responses:
12. The current ratio is higher in 2008 than in 2006.

13. The quick ratio is higher in 2008 than in 2006.

14. For the year ended December 31, 2008, the accounts receivable turnover ratio 1 is worse this year compared to the previous year. In 2008, the accounts receivable turnover ratio 1 is 6.26 times. This is an decrease from 7.18 times in 2007. This is unfavorable.
15. For the year ended December 31, 2008, the accounts receivable turnover ratio 2 (based on year-end receivables) is better at 7.51 times compared to the 2008 accounts receivable turnover ratio 1 (based on average receivables) at 6.26 times.

16. For the year ended December 31, 2008, the inventory turnover ratio 1 is worse this year compared to the previous year. In 2008, the inventory turnover ratio 1 is 9.30 times. This is an decrease from 9.79 times in 2007. This is unfavorable.

17. For the year ended December 31, 2008, the inventory turnover ratio 2 (based on year-end inventory) at 13.73 is better than the 2008 inventory ratio 1 (based on average inventory) at 9.30. This is favorable.

18. The return on total assets (ROA) ratio is worse in 2008 than in 2007. In 2008, the ROA is 3.25%. This is an decrease from 3.97% in 2007. This is unfavorable.

**Inventory Responses:**

19. As of December 31, 2008 and December 31, 2007, the approximate current values of total inventories would be $253,100,000 ($206,900,000 + $46,200,000) and $447,100,000 ($404,300,000 + $42,800,000), respectively.

20. If Molson Coors used FIFO, the current ratio for 2008 would have been higher. This would be due to the higher inventory value included in the numerator as a current asset.

21. The inventory method used would not affect total revenues. Revenues are a function of selling price, not product cost.

22. The gross margin percentage would have been higher if Molson Coors had used FIFO. Since inventory would have been higher, cost of goods sold would have been lower making gross margin higher.

23. If Molson Coors used FIFO, net income would have been higher. Since income is closed to retained earnings, owners' equity would have been higher.

24. If Molson Coors had used FIFO, cost of goods sold would have been lower. This is due to a decrease in the cost of goods sold numerator, and an increase in the denominator, average inventory. Thus, the ratio would be lower.