Solution Outline for Problem 8.1

Price-level adjusted historical cost

For:
- cost is still verifiable since based on historical cost
- useful in periods of high inflation

Against:
- just confuses an already meaningless historical cost figure
- more complex than the historical cost method

Current or market value

For:
- the balance sheet would better reflect the company’s assets and liabilities in terms of what they are actually worth on the market
- represents relevant values if a sale of the business is contemplated

Against:
- market values are subject to much judgment and are therefore difficult to verify
- more complex than the historical cost method
- hypothetical in the absence of a purchase or sale

Value in use

For:
- useful in manager’s decision making
- represents presumed value that caused company to acquire asset

Against:
- difficult to determine values since many assumptions about the future are required
- difficult to determine values of individual assets that all contribute jointly to the company

Solution Outline for Problem 8.2

Strengths:
- reliability, verifiability (evidence required)
- based on economic exchange between parties and so represents some reality
- conservative
- good for contract monitoring
- internal control advantages coming from double-entry accounting

Weaknesses:
- lack of timeliness
- lack of relation to current market conditions
- lack of relevance to predicting future
- too conservative
- overly constrained by its double-entry transactional base reliability
- verifiability (evidence required)
Solution Outline for Problem 8.3

1. Historical cost continues to be the valuation method proposed by GAAP. It is objective and verifiable. For many short-lived assets, historical cost is not that different than other valuation methods.

   The other valuation methods that have been proposed would create other problems. For example, price-level-adjusted historical cost would be quite complex and probably less understandable. Since it is based on historical numbers it would also not remove the apparent problems of that method.

   Current or market value approaches have some attraction in economics and finance. However, these methods would lead to more adjustments being recorded through the income statement, which would make that statement less useful as a measure of financial performance.

   Value in use has never been proposed as an approach for financial accounting. It has some relevance for managerial accounting.

   Liquidation values are used in the limited case where the company is not a going concern. If it was used more extensively it might be self-fulfilling and spark a company failure.

2. The revaluation of the land to market value would result in decreased assets, and decreased owners’ equity and net income due to the resulting write-down on the income statement.

Solution Outline for Problem 8.4

The same valuation basis is not used for all assets because the valuation basis is tailored to the kind of asset and is intended to be informative about the asset’s usefulness in earning future income (predictability).

Current assets are valued at lower of cost or market because they are expected to be available for use (or for paying liabilities) in the next year, whereas noncurrent assets are valued just at cost because there is no intention to use them up in the next year. For them, market value is not thought relevant. As in other areas of accounting, asset valuation is a judgment about which people may reasonably disagree: though GAAP have been designed to make the financial statements useful, if the analyst finds them not so useful because of the differences in asset accounting, then for that analyst, the usefulness of the statements has indeed been harmed.

Solution Outline for Problem 8.5

1. Effect of balance sheet.
   • Depends whether market value is above historical cost. If market value if higher than historical cost, net assets would increase, if lower, net assets would decrease. Note that equity would increase or decrease by the same amount as net assets increased or decreased.

2. Effect on income statement.
   • Again this depends whether market value is higher or lower than historical cost. Also depends whether the change is made through the income statement or directly to retained earnings. If market values are higher then historical cost and the change is made through the income statement, net income will be higher and vice versa. If the change is made directly to retained earnings there will be no effect on the income statement.
3. Does it matter what we do?
   • If market value is higher than historical cost, GAAP do not allow us to record an increase in the value of the land on the balance sheet. This information can be disclosed in the financial statements if it is considered useful to users. Note that there are difficulties with appraisal values. These are estimates, and if estimates are not very reliable or real estate price fluctuate up and down with regularity, this information may not be very reliable thus may not be very useful.
   • If there has been a permanent decline in the value of the land, GAAP require that the land be valued on the balance sheet at market value. If this is the case market value and costs should be disclosed.

Additional points:
• Land may be considered a long-term asset or inventory depending on the nature of the operations of the company. The answer above considered the land a long-term asset. If the land is inventory the answer is similar.
• In comparing market to historical cost, two approaches can be taken:
  - Portfolio approach - compare total market value of all land parcels to total historical cost of all land parcels.
  - Compare market value of each land parcel to historical cost of each land parcel. If some parcels have increased in value and some have decreased, the two approaches will result in different amounts of gains or losses.

Solution Outline for Problem 8.6
1. Valuing balance sheet items like accounts receivable, capital assets and bonds requires adjustments to income statement accounts. For example, in order to value receivables we make an entry to bad debts expense, to allow for doubtful accounts or write off some accounts as uncollectible. Capital assets are recorded at historical cost and every year are amortized to the income statement.

   There are many other examples of the valuation of balance sheet accounts which affect the income statement.

2. Historical cost may not reflect the value of the asset years later. In times of increasing prices this is a bigger problem. Historical cost may not give a good economic picture of the organization!

   Historical cost of capital assets is expensed over the years as amortization. If the historical cost does not reflect the value of the assets then expensing this figure makes the income statement less valuable too.

3. a. Assets will be understated in times of rising prices.
   Something that cost $1 years ago may be worth $5 today but is still recorded at $1. GAAP does not permit assets to be written up to fair market value. Assets that have lost value, however, are often written down to fair market value in the name of conservatism.

   b. Net income will be overstated in times of rising prices.
      Assets recorded at low historical cost (inventory, capital assets) will give lower COGS and amortization.

   c. Return on equity will be overstated because income is overstated.
Solution Outline for Problem 8.7

1. Valuations
   - Historical cost to III = $2,000,000.
   - Present value of future cash flows:
     \[ \frac{500,000}{.10} \left( 1 - \frac{1}{1.10^{25}} \right) = 4,256,000 \]
   - Replacement cost = $3,000,000.
   - MWC's book value = $600,000.
   - Assessed value = $1,600,000.
   - Asking price = $2,300,000.

2. Users and Uses
   - Readers of III's balance sheet for assessing stewardship of assets; tax authorities, for calculating tax depreciation.
   - Tom (or other potential purchasers) for assessing the arena’s value and what it would be worth to buy.
   - Useful for insurance purposes, to be sure insurance proceeds would be enough to replace the arena if it burned down or fell down.
   - About the only use at this point is for determining the gain on sale in MWC's accounts.
   - Used by property tax authorities to determine the property tax on the arena, and sometimes other related charges such as utilities.
   - Unlikely to be of much relevance to anyone now that a different price has been agreed on.

Solution Outline for Problem 8.8

a. Include \((10 \times 50,000) - 150,000 = 350,000\). The interest is recorded in the future as it comes due.

b. Include $20,000.

c. Include $9,500.

d. Don’t include this—it seems to be advertising expense, not related to the land’s acquisition.

e. Include $35,200 – $1,500 = $33,700.

f. Probably include the $25,000, although it could be just written off as a loss. Don’t include the $110,000 since it relates to different land.

g. Don’t include this—it seems to be for the building, not the land. However, if any of the drawings, etc., were used to guide the bulldozing, etc., some of the cost could be included.

h. Don’t include the salary allocation, but probably include the $7,200 travel costs.

This gives a minimum cost of $413,200 ($350,000 + $20,000 + $9,500 + $33,700) with additional amounts probable and possible.
Solution Outline for Problem 8.9

Note: It is usual to keep the land and the building in separate accounts, since the building will depreciate and the land will not.

<table>
<thead>
<tr>
<th>Book Value of:</th>
<th>Land</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>$150,000</td>
<td>0</td>
<td>$785,000</td>
</tr>
<tr>
<td>$0</td>
<td>$785,000</td>
<td></td>
</tr>
<tr>
<td>$0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>35,000</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>$185,000</td>
<td>$1,335,000</td>
<td></td>
</tr>
</tbody>
</table>

Total Book Values
Solution Outline for Problem 8.10

General principle - the cost of an asset includes all those costs required to make it suitable for its intended purpose.

a. Include in cost, not a current year's expense, will benefit future periods.
b. Include in cost, this is part of the purchase price. (GST though would be excluded since it is refundable from the government.)
c. Include in cost, necessary to make the machine suitable for its intended use, i.e. you can't use it if it isn't in the factory.
d. May include in cost if the factory manager's trip was necessary in order to acquire the asset.
e. Probably do not include in cost because the machine can be used whether it is painted light green or not.
f. Do not include in cost because this is not a cost required to make the machine suitable for its intended use.
g. Include in cost, because these costs are necessary to make the assets ready for use and are required to obtain benefits from the asset.
h. Do not include in cost, this cost is not required to get the asset ready for its intended use.
i. Include in cost, machine can not be used if there is no place in the factory to put it, therefore this is a cost required to make it suitable for its intended use.

Solution Outline for Problem 8.11

1. Cost of painting
   Asset: if the paint has economic value in suitling the machine to its intended use
   Expense: if the paint is not necessary (e.g. if cosmetic))

2. Lawyer’s bill
   Asset: if it is part of the cost of acquiring an asset like land
   Expense: if it is related to an expense like a lawsuit

3. Substandard products
   Asset: if they are produced in a necessary running-in or calibration
   Expense: if they are produced due to carelessness or inexperience

Solution Outline for Problem 8.12

a. (1) A foreign bank account is included in cash as long as the currency can be readily converted or accessed for use.
b. (2) Not strictly cash since not available for immediate use (90 days is considered short term), but under GAAP for the cash flow statement, this is less than three months so it may be included with the cash for purposes of cash flow analysis, and therefore likely lumped with cash on the balance sheet too.
c. (1) Considered to be undeposited cash receipts in foreign banks—unlikely any problem accessing German or Spanish funds due to currency restrictions.
d. (1) Petty cash is considered cash on hand.
e. Neither—the customers need to issue replacement cheques; meanwhile the amounts remain receivable from the customers.
f. Neither—this would be classified as a long-term investment.
g. (1) This would show up as an “outstanding deposit” on the reconciliation of the bank statement balance to the general ledger’s bank balance.
h. Neither—it would be grouped with prepaids or deposits.

i. (2) Probably considered a temporary investment, since shares of a public company can be readily traded, and the percentage share owned is too low to be able to influence the operations of the company.

j. Neither—bank overdrafts are included in bank indebtedness and are a current liability.

**Solution Outline for Problem 8.13**

1. a. Temporary investments are normally easy to get to and turn into cash, but they are not quite cash because they can't be spent as is (for example, you can't write a cheque on a term deposit with a bank).

   b. Such temporary investments are passive assets, held as a way to get a return on temporarily excess cash, whereas investments in associated companies are held for a longer term and for the purpose of influencing the operations of the associated company.

2. Because such temporary investments largely represent idle cash and can be easily turned into cash, they are part of the company's cash resources and so it makes sense to count them as cash as long as they are accessible if needed. Therefore, temporary investments with short maturities of three months or less should be included. Leaving them out of cash would also complicate the cash flow statement with relatively uninteresting transfers between “true” cash and these ways of temporarily earning a return on cash not needed immediately.

3. Temporary investments are valued at the lower of cost or market because of conservatism: if they are to be considered as available near-cash resources, any loss in value should be deducted so that their cash value is represented. (If it weren't for conservatism, they could be valued at market, which is the amount of cash they would bring. Such accounting is often suggested and may become acceptable in the future if pressure for it continues.)

**Solution Outline for Problem 8.14**

<table>
<thead>
<tr>
<th>a)</th>
<th>Cost Basis</th>
<th>Market Value</th>
<th>Lower of Cost or Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excetera Ltd. common shares</td>
<td>$17,500</td>
<td>$29,750</td>
<td>$17,500</td>
</tr>
<tr>
<td>PCX Corporation common shares</td>
<td>$26,250</td>
<td>$17,500</td>
<td>$17,500</td>
</tr>
<tr>
<td>International Logistics Corp. common shares</td>
<td>$30,000</td>
<td>$52,000</td>
<td>$30,000</td>
</tr>
<tr>
<td>Alberta Airlines Ltd. common shares</td>
<td>$43,750</td>
<td>$40,250</td>
<td>$40,250</td>
</tr>
<tr>
<td></td>
<td>$117,500</td>
<td>$139,500</td>
<td>$105,250</td>
</tr>
</tbody>
</table>

Using lower of cost or market, if the investments are examined individually, Wobistics would value its marketable securities at $105,250. If the investments are examined in total, the lower of cost or market would be $117,500.

b) Using market values, Wobistics would value its marketable securities at $139,500 and retained earnings would be higher by $34,250 ($139,500 - $105,250), assuming that the investments were examined individually in a) above.
Solution Outline for Problem 8.15

1. If you consider the accounts receivables’ “cost” to be the amount determined in the original sale transaction, then providing an allowance for doubtful collection acts to reduce the receivables down to their estimated market value (collectible amount).

2. Banks disclose these amounts because they are likely to be material for them—banks suffer loan losses all the time, and as their main assets are loans receivable, such losses are a significant part of measuring the banks’ performance. For most other companies, collection losses are less material, and so for competitive reasons are less likely to be disclosed. Also, banks are highly regulated in most countries, so requirements from regulators may prompt the bad loans disclosure, even if the banks did not like to do that.

3. These are not current assets and so should be included with noncurrent assets, perhaps described separately if material, or else included with “other” assets. Following this would not change total assets or income, but would reduce the working capital and working capital ratio.

4. The interest has not yet been earned, and so should not be included in revenue. The credit to revenue should be just $15,000. That records the contract at its “present value.” The interest would be accounted for by adding it to revenue, and to the contract receivable, as it builds up over time (that is, as it is earned).

5. It would make sense to have separate disclosure if the nontrade receivables are material in comparison to the regular receivables, because the nontrade ones have no (direct) relationship to revenue and are subject to different collection expectations. Someone analyzing working capital or collection success may want to exclude the nontrade items.

Solution outline for problem 8.16

1. a. Expense = 2% * 300,000 = 6,000  
   b. Allowance balance = 2,000 + 6,000 = 8,000

2. a. Expense = (5% * 100,000) – 2,000 = 3,000  
   b. Allowance balance = 5% * 100,000 = 5,000

Solution Outline for Problem 8.17

<table>
<thead>
<tr>
<th>Current asset</th>
<th>Noncurrent asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 6,341,700</td>
<td></td>
</tr>
<tr>
<td>b. 423,000</td>
<td></td>
</tr>
<tr>
<td>c. 813,000 *</td>
<td></td>
</tr>
<tr>
<td>d. 156,000</td>
<td></td>
</tr>
<tr>
<td>e. (348,000) *</td>
<td></td>
</tr>
</tbody>
</table>

* deducted from a. so net receivables would be $5,993,700 on the balance sheet.
Solution Outline for Problem 8.19

1. Flows of physical units:

<table>
<thead>
<tr>
<th></th>
<th>Purchases</th>
<th>Sales</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>150</td>
<td>150</td>
<td>350</td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>240</td>
<td>250</td>
</tr>
<tr>
<td>13</td>
<td>240</td>
<td>250</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>250</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>250</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>75</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>475</td>
<td></td>
<td>590</td>
</tr>
</tbody>
</table>

Available cost: \((200 \times 6) + (150 \times 7) + (250 \times 8) + (75 \times 9)\)

\[= 1,200 + 1,050 + 2,000 + 675 = 4,925\]

Cost of goods sold (periodic basis):

a. LIFO uses most recently purchased 590 units
\[= (75 \times 9) + (250 \times 8) + (150 \times 7) + (115 \times 6)\]
\[= 675 + 2,000 + 1,050 + 690\]
\[= 4,415\]

(or, \(= 4,925 - \text{ending inventory} = 4,925 - (85 \times 6) = 4,415\))

b. FIFO uses earliest purchased 590 units
\[= (200 \times 6) + (150 \times 7) + (240 \times 8)\]
\[= 1,200 + 1,050 + 1,920\]
\[= 4,170\]

(or, \(= 4,925 - \text{ending inventory} = 4,925 - ((75 \times 9) + (10 \times 8)) = 4,170\))

c. Weighted AVGE uses an average of available cost
\[= 590 \times (4,925/675 \text{ units})\]
\[= 590 \times 7.30\]
\[= 4,307\]

(or, \(= 4,925 - \text{ending inventory} = 4,925 - (85 \times 7.30) = 4,305 \text{ (Rounding)}\))

2. Ending inventories (calculated in part 1):
   a. LIFO = 85 \times 6 = 510
   b. FIFO = (75 \times 9) + (10 \times 8) = 755
   c. Average = 85 \times 7.30 = 621

3. Using lower of cost or market:
   a. LIFO would not be affected because its unit cost of $6 is already below market.
   b. FIFO cost is above market, so the inventory value would be reduced to $7 per unit, or $595.
      The $160 difference would be transferred to an expense account.
   c. Average cost is also above market, so the inventory value would also be reduced to $595. The $26 difference would be transferred to an expense account. (This would leave income under FIFO and average cost the same, since both begin with the same inventory value (200 \times 6) and end with the same value ($595).
4.  

a.  **LIFO:**

Ending Inventory  
= (10 x $6) + (75 x $9)  
= $735

COGS  
= $4,925 - ending  
= $4,190

We know that the unit balance drops to 10 at one point, so the maximum number of units that could remain at the opening inventory value of $6 is 10.

b.  **FIFO:**

Same as #1 and #2  
= $755  
= $4,170

c.  **Moving average:**

April 1, First average:  
= $6.00

April 12, Second average:  
= (200 x $6) + (150 x $7)  
= $6.43

April 15, Third average:  
= (10 x $6.43) + (250 x $8)  
= $7.93

April 23, Fourth average:  
= (10 x $7.93) + (75 x $9)  
= $8.87

Ending:  
= 85 x $8.87  
= $753.95

COGS  
= $4,925 - ending  
= $4,171.05

Regarding lower of cost or market, there would now be no difference in income for any of the methods, because all have ending inventory costs higher than market ($595) and all ending inventories would therefore be reduced to that $595.

**Solution Outline for Problem 8.20**

Flows of physical units:

<table>
<thead>
<tr>
<th>Date</th>
<th>Purchases</th>
<th>Sales</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1</td>
<td>1,250</td>
<td></td>
<td>1,250</td>
</tr>
<tr>
<td>10</td>
<td>1,000</td>
<td></td>
<td>2,250</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>250</td>
<td>2,000</td>
</tr>
<tr>
<td>17</td>
<td>500</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>2,000</td>
<td>500</td>
</tr>
<tr>
<td>27</td>
<td>1,500</td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>800</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>4,250</td>
<td>3,050</td>
<td></td>
</tr>
</tbody>
</table>

1.  **FIFO**

a.  Cost of June 30th Inventory

Units remaining in inventory:  
= 1,200 x $15 = $18,000

b.  Cost of goods sold

Beginning inventory  
= $0

Add: Purchases ($12 x 1,250)+($13 x 1,000)+($14 x 500)+($15 x 1,500)  
= 57,500

Less: Ending inventory  
= (18,000)

Cost of goods sold  
= $39,500
2. LIFO periodic
   a. Cost of June 30th inventory from (a) above there are 1,200 units in ending inventory.
      \[ 1,200 \times 12 = 14,400 \]
   b. Cost of goods sold
      \[
      \begin{align*}
      \text{Beginning inventory (see (a))} & \quad 0 \\
      \text{Add : Purchases (see (a))} & \quad 57,500 \\
      \text{Less ending inventory} & \quad (14,400) \\
      \text{Cost of goods sold} & \quad 43,100
      \end{align*}
      \]

   LIFO perpetual
   a. Cost of June 30 inventory
      \[
      \begin{align*}
      * 500 @ 12 & = 6,000 \\
      700 @ 15 & = 10,500 \\
      \text{Cost of goods sold} & = 16,500
      \end{align*}
      \]
   b. Cost of goods sold:
      \[
      250 \times 13 + (500 \times 14 + 750 \times 13 + 750 \times 12 + 800 \times 15)
      = 3,250 + 7,000 + 9,750 + 9,000 + 12,000 = 41,000
      \]
      The June 23 sales have different unit costs. The most recent purchase of 500 units at $14 is sold first, then 750 of the units remaining from the June 10th purchase (1,000 – 250), then 750 units from the June 1st purchase.

3. Note: this answer is based on LIFO periodic method.
   a. Income statement effects
      \[
      \text{Cost of goods sold (43,100 - 39,500)} \quad 3,600 \text{ increase}
      \text{Net income before tax} \quad 3,600 \text{ decrease}
      \]
   b. Balance sheet effects
      \[
      \text{Inventory (18,000 - 14,400)} \quad 3,600 \text{ decrease}
      \text{Retained earnings} \quad 3,600 \text{ decrease}
      \]

Solution Outline for Problem 8.21
1. 
<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest income</td>
<td>LIFO</td>
<td>FIFO</td>
<td>FIFO</td>
</tr>
<tr>
<td>Lowest income</td>
<td>FIFO</td>
<td>AVGE</td>
<td>LIFO</td>
</tr>
<tr>
<td>Difference</td>
<td>22,000</td>
<td>13,000</td>
<td>23,000</td>
</tr>
</tbody>
</table>

2. The company should choose an inventory cost policy that is fair and appropriate for its circumstances and stick with it. The fact that various methods might produce higher or lower incomes in various years is not a proper criterion for choice of a method. It smacks of manipulation.

Solution Outline for Problem 8.22
1. Sales – cost of goods sold = gross profit
   Gross profit = 1/3 of sales
   Substituting: sales – cost of goods sold = 1/3 of sales
   Cost of goods sold = 2/3 sales = 2/3 \times 1,200,000 = 800,000
   Goods available for sale = 600,000 + 320,000 = 920,000
   Goods available for sale – ending inventory = cost of goods sold
   Ending inventory = 920,000 – 800,000 = 120,000
2. Boomer’s claim should be for $120,000. It appears the claim submitted is on the basis of retail prices rather than cost.

**Solution Outline for Problem 8.23**

1. a. Inventory cost, December 31, 2006 for Print X, FIFO basis.

   First calculate units in ending inventory:
   
   - **Beginning inventory**: 8
   - **Purchases (20 + 30)**: 50
   - **Sales**: (46)
   - **Ending inventory**: 12

   Ending inventory value: 12 x $500 = $6,000

   b. Cost of goods sold 2006, for Print Y, Average basis.

<table>
<thead>
<tr>
<th>Units</th>
<th>Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning inventory</td>
<td>22</td>
<td>$750</td>
</tr>
<tr>
<td>Summer purchases</td>
<td>50</td>
<td>$720</td>
</tr>
<tr>
<td>Fall purchases</td>
<td>60</td>
<td>$764</td>
</tr>
<tr>
<td>Goods available for sale</td>
<td>132</td>
<td></td>
</tr>
</tbody>
</table>

   Average cost: $98,340 / 132 = $745

   Cost of goods sold: 76 x $745 = $56,620

2. Ending inventory value print Y.

   Market value (100-10) | $90
   Units remaining (22+ 50 + 60 - 76) | x 56
   Inventory value | $5,040

   GAAP require that inventory be valued at the lower of cost or market. In this case the market value would be net realizable value, i.e. selling price less any costs required to complete the sale. Since this amount is lower than cost, the inventory must be written down.

**Solution Outline for Problem 8.24**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total cost</th>
<th>Total market</th>
<th>Lower of cost or market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue bombies</td>
<td>$ 81,000</td>
<td>$150,000</td>
<td>$ 81,000</td>
</tr>
<tr>
<td>Red rockies</td>
<td>23,800</td>
<td>14,000</td>
<td>14,000</td>
</tr>
<tr>
<td>Yellow yallies</td>
<td>130,000</td>
<td>150,000</td>
<td>130,000</td>
</tr>
<tr>
<td>Tangerine tackies</td>
<td>96,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Gold glammies</td>
<td>32,500</td>
<td>41,000</td>
<td>32,500</td>
</tr>
<tr>
<td></td>
<td><strong>$363,300</strong></td>
<td><strong>$375,000</strong></td>
<td><strong>$277,500</strong></td>
</tr>
</tbody>
</table>

1. Most conservative = $277,500
2. Less conservative = $363,300
Solution Outline for Problem 8.25

<table>
<thead>
<tr>
<th>Inventory item</th>
<th>Total cost</th>
<th>Total market</th>
<th>Lower of cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadgets</td>
<td>$312,000</td>
<td>$360,000</td>
<td>$312,000</td>
</tr>
<tr>
<td>Gizmos</td>
<td>$382,500</td>
<td>$330,000</td>
<td>$333,000</td>
</tr>
<tr>
<td>Widgets</td>
<td>$283,500</td>
<td>$324,000</td>
<td>$283,500</td>
</tr>
<tr>
<td>Doodads</td>
<td>$201,000</td>
<td>$168,000</td>
<td>$168,000</td>
</tr>
<tr>
<td>Thingamajigs</td>
<td>$342,000</td>
<td>$342,000</td>
<td>$342,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,521,000</td>
<td>$1,614,000</td>
<td>$1,435,500</td>
</tr>
</tbody>
</table>

1) Most conservative - $1,435,500 (examine each item individually)
2) Less conservative - $1,614,000 (compare totals of cost and market for the group)

Solution Outline for Problem 8.26

In order to answer this, let’s assume that, at least for some inventories, market is lower than cost. Otherwise, the accountant probably would not have been too concerned. The effects would be:

Balance sheet: the inventory, current assets, and working capital would all be reduced by the difference between cost and market for those inventories whose market is less than cost.

Income statement: that difference would be deducted as an expense on the income statement and therefore would result in a lower net income. (Income tax expense would be smaller on the lower income, which would reduce the negative effect on income somewhat.)

Cash flow statement: the net income would be smaller, but that change would be cancelled by a smaller change in the inventories from one year to the next (and in income tax payable, if there is a change in the income tax expense). These effects would all cancel each other out, so that there would be no net effect on cash from operations or on any other figure.

Solution Outline for Problem 8.27

1. A salvage value has to be assumed to answer this. Assuming it is zero, the amortization would be 10% of cost per year, $10,000 in 2005 and 2006. The entry would debit amortization expense and credit accumulated amortization with the $10,000.

2. Here the declining balance rate must be known. Let’s assume it is “double declining balance” so that the rate is double the straight-line rate of 10%. Amortization for 2005 would be 20% of $100,000 = $20,000. Amortization for 2006 would be 20% of ($100,000 – $20,000) = $16,000.
3. Effects analysis, ignoring income tax effects:
   a. End of 2005, net book value and retained earnings both down $10,000.
   b. For 2006, amortization expense would go up by $6,000 ($16,000 – $10,000 originally recorded), so income would go down by $6,000.
   c. End of 2006, net book value and retained earnings both down $16,000 ($10,000 from 2005 plus $6,000 from 2006).
   d. No effect on cash from operations or change in cash for the year, because cash is not affected. But the operations section will have some internal change: net income will go down $6,000 and the amortization add-back will go up $6,000.

Solution Outline for Problem 8.28

1. DR Amortization expense (150,000/10) 15,000
   CR Accumulated amortization 15,000
   • to record amortization expense for 2006 using the straight line method.

2. 2005 amortization expense (150,000 x .20)  $30,000
   2006 amortization expense (150,000-30,000) x .20  24,000
   Required ending balance - accumulated amortization  $54,000
   DR Amortization expense 24,000
   CR Accumulated amortization 24,000
   • to record amortization expense for 2006 using the declining balance method.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance sheet effects:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declining balance</td>
<td>$30,000</td>
<td>$54,000</td>
</tr>
<tr>
<td>Straight-line</td>
<td>15,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Increase in accumulated amortization/Decrease in assets</td>
<td>$24,000</td>
<td></td>
</tr>
<tr>
<td>Decrease in retained earnings</td>
<td>$15,000</td>
<td>$24,000 *</td>
</tr>
<tr>
<td>* $9,000 for 2006 and $15,000 adjustment to opening balance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Income statement effects:
   Increase in amortization expense (24,000-15,000) $ 9,000
   Decrease in net income $ 9,000

   Cash flow statement effects:
   Change in net income $ (9,000)
   Add back: increase in amortization $ 9,000
   $ 0

4. If the asset is expected to benefit earlier periods more than later periods the declining balance method is more appropriate than the straight-line method because it will result in better matching of revenues and expenses. If an asset is expected to benefit each period evenly throughout its useful life, the declining balance method would not be appropriate.
Solution Outline for Problem 8.29

(a)  Amort. 2005 = (2 x 1/10) x 850,000 = 170,000
     2006 = (2 x 1/10) x (850,000 – 170,000) = 136,000
     2007 = (2 x 1/10) x (850,000 – 170,000 – 136,000) = 108,800

(b)  Amort. for any year SL = 1/10 x (850,000 – 30,000) = 82,000
     So net income was higher in 2007 than if DDB had been used.

Solution Outline for Problem 8.30

a.  Loss of $11,000 ($16,000 – book value of ($45,000 – $18,000))
b.  Loss of $85,000 ($100,000 – $15,000: a write-down)
c.  No gain or loss (book value $0, proceeds $0)
d.  Gain of $23,000 (present value of ($100,000 – $27,000) – $50,000)
e.  No gain or loss (no amortization given, so probably the cost minus proceeds would just be debited
to accumulated amortization)
f.  Loss of $90,000. Proceeds are $340,000, and the assets’ book value is $430,000 ($670,000 –
$240,000), which is $90,000 more than the proceeds.

Solution Outline for Problem 8.31

1.  YEAR  AMORTIZATION EXPENSE   NET BOOK VALUE
     a.  2005  $6,000  $26,000
         2006  6,000  20,000
     b.  2005  5,000  27,000
         2006  7,500  19,500
     c.  2005 12,800 19,200
         2006  7,680 11,520

2.  a.  DR Cash  18,000
     DR Accumulated amortization  12,000
     DR Loss on disposition of equipment  2,000
     CR Equipment  32,000
     b.  DR Cash  18,000
     DR Accumulated amortization  12,500
     CR Equipment  32,000
     CR Gain on disposition of equipment  1,500
     c.  DR Cash  18,000
     DR Accumulated amortization  20,480
     CR Equipment  32,000
     CR Gain on disposition of equipment  6,480
3. Cost over the period is $14,000 under each alternative. This is the decline in value from the purchase price of $32,000 to the $18,000 proceeds of disposition. The timing of the expense recognition varies with the amortization method chosen but is adjusted by the gain or loss recognized on disposition.

**Solution Outline for Problem 8.32**

(a) **Straight-line basis**

Annual amortization = \( \frac{150,000 - 10,000}{10} = $114,000 \)

Amortization to end of third year will be $42,000 ($14,000 x 3)

Book value at that point will be $150,000 – $42,000 = $108,000

Gain/loss on disposal will be $100,000 – $108,000 = $8,000 loss

(b) **Double declining balance basis**

Rate is twice the straight-line rate. Twice 1/10 = 1/5

<table>
<thead>
<tr>
<th>Year</th>
<th>Amort.</th>
<th>Book Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>30,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Second</td>
<td>24,000</td>
<td>96,000</td>
</tr>
<tr>
<td>Third</td>
<td>19,200</td>
<td>76,800</td>
</tr>
</tbody>
</table>

Gain/loss on disposal will be $100,000– $76,800 = $23,200 gain

(c) **Units of production basis**

Amortization rate = \( \frac{150,000 - 10,000}{5,000,000 \text{ pucks}} = $0.028 \text{ per puck} \)

Amortization to end of third year = 1,534,193 x $0.028 = $42,957.40

Book value end of third year = $150,000 – $42,957.95 = $107,042.60

Gain/loss on disposal will be $100,000 – $107,042.60 = $7,042.60 loss

**Comments on the answers**

The straight-line and units-of-production methods produce similar results, because the machine is being used fairly close to its average production level of 500,000 pucks a year (5,000,000 pucks over 10 years). Double declining balance results in a much higher amortization in the early years than the other two methods, which would be suitable if the machine was more valuable in its early years. There may be other indications of this early higher value, but the rate of production doesn’t indicate that. Double declining balance probably is too much weighted to early years to be a reasonable match with the economic value of the machine.
Solution Outline for Problem 8.33

1. The purpose of amortization of the cost of an asset is to attempt to match the cost of the asset to the benefit generated through the use of the asset. In Fast Eddie’s case the benefit of the use of the truck is the delivery revenue earned by using the truck. Therefore, the purpose of amortizing assets is not to provide a market valuation of the asset on the balance sheet. The truck could be used more in the first year than in subsequent years. If no amortization expense is recorded because the value of the truck has not declined, there will be an improper matching of revenues and expenses in that first year.

2. a. Accumulated amortization at the end of the second year.
   1. straight line
      \[ \frac{10,000}{5} = \] $2,000 per year
      \[ 2,000 \times 2 = \] $4,000
   2. declining balance (25% rate)
      \[ 10,000 \times 0.25 = \] $2,500 year 1 amortization
      \[ (10,000-2,500) \times 0.25 = \] $1,875 year 2 amortization
      \[ $4,375 \]
   3. units of production
      \[ \frac{10,000}{5,000} = \] $2 per lawn
      \[ 500 \times 2 = \] $1,000 year 1 amortization
      \[ 1,000 \times 2 = \] $2,000 year 2 amortization
      \[ $3,000 \]

   b. Units of production method would result in the highest retained earnings at the end of the second year because the expense for the first two years taken together is lower, resulting in total net income for the two years being higher.

c. Revenue is generated when a unit is sold. If the total units that an asset is capable of producing can be readily estimated, the units of production method will result in good matching of revenues and expenses. Whether it would make sense for this business depends on how good the estimates are. For example, if each lawnmower costs $500, then 20 lawnmowers have been purchased. Is it plausible to assume that each lawnmower can be used to mow 250 \((5,000/20)\) lawns before it is no longer useful? It does appear that estimated revenues will increase each year until they decline in the fifth year. Therefore, the units of production method would likely make more sense than the straight line or declining balance method.

d. 1. Net book value
   Cost \[ 10,000 \]
   Accumulated amortization \[ (7,627) \]
   Net Book Value (NBV) \[ 2,273 \]
   Proceeds \[ 100 \]
   Less NBV \[ (2,373) \]
   Loss on disposal \[ (2,273) \]
2. The $100 received just reduces the loss on disposal. The lawnmowers were sold because they were no longer useful, therefore they will no longer provide a benefit. Since they will no longer provide a benefit they should not be included on the balance sheet as an asset.

The fact that there is a loss recorded in the sixth year indicates that the cost of the lawnmowers was not properly matched to the benefit provided by the use of the lawnmowers over their useful life. Since choice of amortization method involves some estimation as to the appropriate amounts to charge in each period for amortization expense, it is inevitable that gains and losses on disposal of assets will be recorded.

If the units of production method had been used and the estimated number of lawns was actually mowed there would have been a $100 gain on disposal of the asset. However, cumulative expense for the five years would have been lower. At the end of six years, total expense will be the same under any amortization method chosen.

**Solution Outline for Problem 8.34**

1. The acquisition would be recorded by the following journal entry:
   
   DR Accounts Receivable 200,000  
   DR Inventory 650,000  
   DR High-technology equipment 2,210,000  
   DR Patents 3,650,000  
   DR Goodwill 7,390,000  
   CR Cash 2,100,000  
   CR Share capital 12,000,000

2. The president is correct that accounting finds it difficult to value people’s expertise, particularly in a technology environment. The value of specific staff can be lost if they leave the company. In this case some value is presumably placed on expertise and development. The purchase price of $14,100,000 exceeds the fair value of the assets acquired by an amount of $7,390,000 that represents a premium for other value in the acquisition. This amount of purchased goodwill will be recorded and represents unrecorded assets such as expertise.

3. Recording the “human capital” on the balance sheet would not change the total assets, because it would just involve reclassifying part of the goodwill as human capital. There would be a new human capital asset and less goodwill. Although this would change the details of the assets, and might affect future income if the human capital asset were amortized on a different basis than the goodwill, it would likely not change the market value of the company because the stock market probably already places a value on the company’s human capital. Though many people would like to see a human capital asset on the balance sheet, creating one would not currently be acceptable under GAAP. The company could discuss the goodwill asset in a note to the financial statement, saying that it represents human capital in part.
Solution Outline for Problem 8.35

1. If the other business were continuing as a corporate entity, it might be shown as an investment asset at the cost of $250,000. However, as the business will become a branch, its components would probably be spread out across Foofaraw's assets and liabilities (similarly to consolidation) as follows:

<table>
<thead>
<tr>
<th>Debit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangible assets increased ($228,000 + $60,000)</td>
<td>$288,000</td>
</tr>
<tr>
<td>Goodwill ($250,000 - $228,000)</td>
<td>22,000</td>
</tr>
<tr>
<td>Accounts payable increased</td>
<td></td>
</tr>
<tr>
<td>Net total</td>
<td>(60,000)</td>
</tr>
<tr>
<td></td>
<td>$250,000</td>
</tr>
</tbody>
</table>

2. Now the net total would have to be $225,000. There would be no goodwill and the tangible asset increase would be reduced to $285,000.

Solution Outline for Problem 8.36

1. Goodwill calculation
   Goodwill = $5,180,000 – ($7,328,000 - $2,564,800) = $416,800

2. Why an asset?
   Represents unidentified value (future benefit) acquired along with the specific net assets of the company acquired.

3. Why is advertising not an asset?
   Students may think of other points, but the following are the main three emphasized in the course.
   - Future value of advertising is very uncertain
   - Capitalizing advertising expense boosts current earnings
   - It is hard to measure an internally generated asset reliability (e.g. because of indirect costs)

Solution Outline for Problem 8.37

a. Net income would go down $46,900 (that is, $67,000 × (1 – 0.30)).
b. No immediate cash flow effect, but a cash savings within a year due to lower income tax.
c. Current tax liability is the only working capital account affected at present. It goes down $20,100 (that is, $67,000 × 0.30), so working capital is improved by that amount.

Solution Outline for Problem 8.38

Refer to section 8.14 for more about these outlined ideas:

a. Such “goodwill” is not objectively measurable, has not been subject to the market test that a transaction would be, and would increase assets and income and might therefore imply manipulation of the accounting information. If the company has been doing well, its good performance will have shown up in income and therefore it will be more attractive to investors, so the accounting information as it is still allows some awareness of such accumulating goodwill.

b. By double entry, showing more assets by reducing expenses would increase income and retained earnings. The income and equity effects are a principal reason for resistance to such capitalization.
c. Well, yes, it would violate the idea that assets are things owned. But accrual accounting goes beyond the idea of ownership to include economic use and control. If you are really treating these assets as yours for the purpose of earning income, it is thought fairer to include them in the assets (and liabilities) than to leave them out.

d. Here, you presumably paid for the right to be the unique supplier. If so, the cost if an asset in an economic sense: it has value to your future ability to earn income. So it is an asset just as much as land or buildings are. (If you got the rights for free, then there is no asset cost to record.)

**Solution Outline for Problem 8.39**

1. Although intangible assets do not have a physical existence as do land buildings etc., they can provide future economic benefits to the company. As such, intangible assets can be considered a resource of the company and included on the balance sheet.

2. Because these assets are intangible their existence and value may be doubtful and difficult to measure. This includes doubt about future economic value.

3. If costs of a development project are recorded as a “deferred cost” asset this means they have not been expensed. Thus net income is higher because expenses are lower and balance sheet assets are higher.

4. In the cash flow statement the increase in net income is exactly offset by the increase in the asset because net income is considered a source of funds, while increases in assets are considered uses of funds.

5. The word “indirect” is important here. Three such effects may be: (1) income tax payments may change if the basis of the company's assets and expenses for tax purposes changes; (2) management bonuses and other such payments may change if income changes; (3) if the company's apparent profitability changes, management may change product selling prices.

6. Accounting standards require that leases be capitalized when the company is deemed to have almost the same rights and obligations of ownership as if they had purchased the asset outright. The idea is that, if the lease transaction is almost the same as the purchase of an asset, the two transactions should be recorded in the same way.

7. If a lease is treated as a capital lease, the present value of the minimum lease payments will be recorded as an asset. A liability will also be recorded in the same amount at the inception of the lease. Thus assets and liabilities will be higher when a lease is treated as a capital lease rather than an operating lease. In the income statement, for capital leases, amortization expense is recognized based on the recorded value of the leased asset, and interest expense is recognized based on the recorded value of the lease obligation. Lease payments are not deducted from net income when the lease is treated as a capital lease. When a lease is treated as an operating lease only the lease payments are expensed in the income statement. There is no effect on the cash flow statement because capitalizing a lease does not change the amount of the lease payments, i.e. the same lease payments are made regardless of the method used.

**Solution Outline for Problem 8.40**

Points for discussion:

- The issue of assigning appropriate accounting values to intangible assets is a particular problem for so-called “new economy” or dot.com companies. These companies receive higher market capitalizations (the market value of all outstanding shares) early in their business lives. Much of this capital is invested in forms of intellectual capital. Financial accounting still has difficulty valuing employees and management expertise. Similarly, there is a problem placing a value on the development of software and Internet service applications. However, in some countries financial accounting now recognizes the value of brand names.
The issue of potential over-valuation of tangible assets of “old economy” companies is more easily addressed. Companies can record higher rates of amortization or reduce the estimated life of such assets to allocate more cost to expense in earlier years.

The question of stock market valuation of new versus old economy companies is not a definite issue. The stock market goes through cycles of preferring one sector and then another. Eventually, the “new economy” companies will have to actually produce some earnings for the stock market values to remain high.

Financial accounting is evolving to recognize more intangible assets. Some companies are experimenting with disclosure of non-financial measures in their annual reports, but outside of the financial statements. A significant overhaul of financial accounting is not required.

Solution Outline for Problem 8.41

a: increase; b: increase; c: increase; d: increase, assuming purchase costs are increasing; e: increase; f: decrease; g: decrease.

Solution Outline for Problem 8.42

1. DR Sales revenue $115,000, CR Building cost $820,000, DR Accumulated amortization $762,000, CR Gain on sale $57,000.

2. AVGE would give lower income than FIFO, which in a period of rising prices has the lowest COGS (and highest asset values) of any assumed cost method, and therefore the highest income.

3. This is probably not appropriate. Lower of cost or market is used for reasons of conservatism, and since the goods are for resale net realizable value would be a more appropriate version of market, especially in this case where net realizable value is lower than cost (but replacement cost, used in the present policy, is higher than cost and so would not produce a downward adjustment).

4. Assuming that adjustments for “book-to-physical” for the year-end physical inventory have not been made, DR Revenue $14,350, CR Accounts receivable $14,350, DR Inventory $9,120, CR COGS $9,120.

5. Yes, GAAP would require lower of cost or market accounting here. So the temporary investments account would be reduced by $10,000 (or a contra allowance for market value decline could be created) and a loss on market value decline would be included in the expenses.

6. Actual cost requires identifiable inventory items, such as serial numbers. This may be impossible. Or at least it may be impractical: operating an actual cost system may require a more careful and costly inventory system than the inventory warrants (cost greater than benefit).

Solution Outline for Problem 8.43

1. Journal entries:

(a) DR Land 1,500,000 CR Cash 1,750,000
DR Building 3,650,000 CR Mortgage 3,500,000
DR Equipment 1,100,000 CR Share capital 1,000,000

(b) DR Building 400,000 CR Cash 1,350,000
DR Equipment 950,000

DR Cash 519,000 CR Equipment 500,000
CR Gain on sale 19,000

(c) DR Amort. expense 357,500 CR Accum. amort. - building 202,500
    CR Accum. amort. - equipment 155,000

(d) DR Cash 45,000 CR Equipment 70,000
    DR Accum. amort. - equip. 7,000
    (10% x $70,000)
    DR Loss on sale 18,000
    DR Interest expense 245,000 CR Accrued interest liability 245,000
    (7% x $3,500,000)
    (This will surprise some students as it was not specifically mentioned. Accrual accounting is supposed to catch such things as interest accruing.)

2. Net book value = 6,250,000 + 1,350,000 - 500,000 - 357,500 - 70,000 + 7,000
    = $6,679,500
    This is Land $1,500,000
    Building 3,867,500
    Equipment 1,332,000
    $6,679,500

3. Impact on income = 19,000 - 357,500 - 18,000 - 245,000
    = negative $601,500

Solution Outline for Problem 8.44

1. For including the gain in her bonus calculation:
   • Previous bonuses were lower due to conservative amortization, so including the gain corrects appropriately for that.
Against including the gain in her bonus calculation:
   • It's just an accounting adjustment resulting from the past amortization, not really reflective of her performance this year.

2. On the income tax saving:
   • Commentator is wrong.
   • There is no tax saving from amortization (it's irrelevant for tax purposes).
On the cash flow effect:
   • Commentator is wrong.
   • Amortization does not affect cash flow (add back on the cash flow statement just removes it from net income.)

3. For the policy:
   • A conservative policy is reasonable if obsolescence risk is high or if the useful life really is this short (8 years), then the 12 ½ % rate is quite appropriate.
   • The agreement in part 1 and the lack of salvage value argue for declining balance instead.
4. **DR** Unusual expenses 240,000  
   **CR** Development costs asset 240,000  
   **DR** Development costs asset 120,000  
   **CR** Amortization expense 120,000  
   **DR** Operating expenses 130,000  
   **CR** Development cost asset 130,000  

**Or**

**DR** Unusual expenses 240,000  
   **CR** Development costs asset 250,000  
   **CR** Amortization expense 120,000  
   **DR** Operating expenses 130,000

---

**Solution Outline for Problem 8.45**

1. a. Direction: Earnings would go *down*  
   Why?: In the early years of an asset's life, double declining balance expense > straight line.  

   b. Direction: Total assets would go *down*  
   Why?: In the early years of an asset's life, accumulated amortization on the double declining balance basis > accumulated amortization on the straight line basis.

2. Available cost = (4,000 x $89) + (18,000 x $93) = $356,000+ $1,674,000 = $2,030,000

   a. Annual average:  
   AVGE = $2,030,000 / (4,000 + 18,000) = $92.27  
   Ending inventory = (4,000 + 18,000 – 17,000) x $92.27 = 5,000 x $92.27 = $461,350

   b. FIFO:  
   Ending inventory = 5,000 x $93.00 = $465,000

3. No adjustment, because market > cost

---

**Solution Outline for Problem 8.46**

1. a. Direction: Earnings would go *down*  
   Why?: In these circumstances, AVGE cost inventory < FIFO inventory, so COGS is higher and income is lower.  

   b. Direction: Cash from operations *would not be affected*  
   Why?: There is no cash involved in an inventory policy change, so no effect on cash.

2. a. Amortization expense:  
   Rate = ($9 million - $1 million) / 5 million barrels = $1.60 per barrel  
   Amortization expense = 280,000 x $1.60 = $448,000

   b. Accumulated amortization:  
   Accumulated amortization = 890,000 x $1.60 = $1,424,000

3. 2006 = 2 x 1/20 x $9 million = $900,000  
   2007 = 2 x 1/20 x ($9 million - $900,000) = $810,000
Solution Outline for Problem 8.47

1. Lindleigh Company
   Balance Sheet as at December 31, 2006

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leasehold rights</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Development costs</td>
<td>$5,000,000</td>
</tr>
<tr>
<td></td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Loan liability</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Share capital</td>
<td>$3,000,000</td>
</tr>
<tr>
<td></td>
<td>$6,000,000</td>
</tr>
</tbody>
</table>

(The balance sheet is not classified properly as to current and noncurrent items because there is insufficient data to do that, but it does not matter for purposes of this problem.)

2. a. Lindleigh Company
   Income Statement for the Year Ended December 31, 2007

<table>
<thead>
<tr>
<th>Revenue (400,000 x $4)</th>
<th>$1,600,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenses:</td>
<td></td>
</tr>
<tr>
<td>Cost of oil sold (1)</td>
<td>$800,000</td>
</tr>
<tr>
<td>Selling expenses (given)</td>
<td>200,000</td>
</tr>
<tr>
<td>Amortization (2)</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>1,600,000</td>
</tr>
<tr>
<td>Income before income tax</td>
<td>$0</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>$0</td>
</tr>
<tr>
<td>Net income</td>
<td>$0</td>
</tr>
</tbody>
</table>

(1) Production costs per barrel: $1,000,000/500,000 = $2.00
   Cost of oil sold: 400,000 x $2.00 = $800,000

(2) Amort. of leasehold rights: $1,000,000 x (500,000 / 5,000,000) = $100,000
   Amort. of development cost: $5,000,000 x (500,000 / 5,000,000) = 500,000
   $600,000

b. Assets as at December 31, 2007:

| Cash (3)                  | $400,000   |
| Inventory (100,000 x $2.00)| 200,000    |
| Leasehold rights          | 900,000    |
| Development costs         | 4,500,000  |
|                          | $6,000,000 |

(Since there is no income, liabilities and equity remain at $6,000,000.)

(3) Assuming all revenues have been collected and all costs and expenses were paid in cash, cash equals $1,600,000 - $1,000,000 production - $200,000 selling = $400,000. Or take income, add back amortization and deduct inventory increase: $0 + $100,000 + $500,000 - $200,000 = $400,000. Or take total liabilities and equity of $6,000,000 and deduct other assets to get cash.

Solution Outline for Problem 8.48

1. The business must have begun with assets of $500 thousand because that is the beginning share capital. If this was cash, then the purchased business must have cost $400 thousand because there was $100 thousand cash left. (Or list the net non-cash assets: $300 - $20 + $240 + $60 - $180 = $400 thousand cost of what was acquired.)
2. Cash from operations = $76 income + $8 amortization + $6 goodwill amortization - ($304 - $280 growth in net receivables) - ($354 - $240 growth in inventory) + ($194 - $180 growth in payables) = $-34 thousand (cash used in operations).

(Proof: Cash change = decline of $74 from $100 to $26. Of that $74, $40 was for fixtures, so $34 of the decline must have been from operations.)

3. a. October 31, 2007 retained earnings would go down because the inventory asset would be lower and cost of good sold expense therefore would be higher. Retained earnings would be $76 - ($354 - $316) = $38 thousand.

b. Cash generated by operations would be the same as in part (2) because income would be $38 thousand ($354 - $316) lower but the growth in inventory would also be $38 thousand less, so the two effects would cancel out. This policy change has nothing to do with cash so it is appropriate that cash from operations would be unaffected.

4. Flows of physical units:

<table>
<thead>
<tr>
<th></th>
<th>Purchases</th>
<th>Sales</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1</td>
<td></td>
<td></td>
<td>8,000</td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>February 15</td>
<td>7,000</td>
<td>4,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td>7,500</td>
<td>5,000</td>
</tr>
<tr>
<td>July 31</td>
<td></td>
<td>3,500</td>
<td>12,500</td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td>9,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14,500</td>
<td>13,500</td>
</tr>
</tbody>
</table>

Available cost = $240 + $252 + $300 = $792 thousand

4. (Continued)

a. October 31, 2003 inventory on LIFO periodic basis:

\[(8,000 \times 30) + (1,000 \times 36) = 276 \text{ thousand}\]

b. 2003 COGS on LIFO periodic basis:

$792 available - $276 ending = $516 thousand

c. October 31, 2003 inventory on LIFO perpetual basis:

\[(2,000 \times 30) + (3,000 \times 36) + (4,000 \times 40) = 328 \text{ thousand}\]

2007 COGS on LIFO perpetual basis:

$792 available - $328 ending = $464 thousand

There is a difference because more information is available when the perpetual method is used. For example, we know that the maximum units remaining at the opening value of $30 is 2,000, and the maximum remaining from the last purchase at $40 is 7,500 – 3,500 = 4,000.

5. a. DR  Cash  15,000
    CR  Fixtures  18,000
    DR  Accumulated amortization*  6,000
    CR  Gain on sale  3,000

* $18,000 cost - $12,000 book value.

b. This sale increases income (the gain on sale), but on the cash flow statement that gain is subtracted from income in determining cash from operations because it is a non-cash item. (The cash is in the proceeds, which will appear under Investing activities.) Therefore the sale affects the cash flow statement's calculation of cash from operations but does not change the amount of cash from operations.
**Solution Outline for Problem 8.49**

1. a. The husband's amortization policy is unacceptable:
   - 2% implies a useful life of 50 years: too long!
   - should not amortize land;
   - various assets are unlikely to amortize at the same rate;
   - it is unclear whether the policy is straight-line or some other basis (they might be indistinguishable in the first year);
   - amortization should be disclosed separately, not lumped in with store operations expense.

   b. The policy here is up to you. It should reflect your judgment or assumptions about such factors as:
   - useful lives of assets;
   - likely economic use patterns;
   - assumptions about salvage values;
   - cost or ease of implementation (Harriett's husband is not much interested in accounting and presumably in complicated accounting methods).

   c. This calculation will depend on the policy chosen. Using the straight-line basis and arbitrary rates of 5% for the building and 10% for the other assets, the 2006 amortization would be:
   
<table>
<thead>
<tr>
<th>Building: 5% x $114,000</th>
<th>$5,700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other amortizable assets: 10% x $33,000</td>
<td>3,300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,000</strong></td>
</tr>
</tbody>
</table>

   Adjusting entry ($9,000 - $3,740 = $5,260):
   
   | DR Amortization expense | 9,000 |
   | CR Store operations expense | 3,740 |
   | CR Accumulated amortization | 5,260 |

2. a. The husband was using the weighted annual average method.

   b. Yes, it's acceptable. It uses historical costs (which GAAP require) and is suitable for non-perishable, anonymous sorts of goods. Wrapping paper seems to be such goods.

   c. Pattern of levels of units (packages):

<table>
<thead>
<tr>
<th></th>
<th>Purchases</th>
<th>Sales</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning</td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>To April 24</td>
<td></td>
<td>160</td>
<td>40</td>
</tr>
<tr>
<td>April 25</td>
<td>300</td>
<td></td>
<td>340</td>
</tr>
<tr>
<td>To August 15</td>
<td></td>
<td>310</td>
<td>30</td>
</tr>
<tr>
<td>August 16</td>
<td>500</td>
<td></td>
<td>530</td>
</tr>
<tr>
<td>December 31</td>
<td></td>
<td>450</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>800</td>
<td></td>
<td>920</td>
</tr>
</tbody>
</table>

   Available cost = $1,330 (given).

   Ending LIFO perpetual inventory:
   
   \[(30 \times $1.20) + (50 \times $1.40) = $106\]
   \[COGS = $1,330 - $106 = $1,224\]

   (On the periodic LIFO basis, ending inventory would be 80 x $1.20 = $96 and COGS would be $1,330 - $96 = $1,234.)
3. a. “Capitalizing” such expenses means transferring them out of the expenses and including them in the assets.

b. Expenses would go down $2,000 due to removal of the expenses, but amortization expense would go up as the fixtures asset would be larger. Using the arbitrary 10% amortization rate from part 1.c., 2006 amortization would increase $200. So the net effect on 2006 income would be an increase of $1,800 ($2,000 minus $200).

4. Revised income before tax for 2006:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband's income before tax figure</td>
<td>$16,000</td>
</tr>
<tr>
<td>Reduction in inventory: reduce from $43,000 cost to $41,600 market</td>
<td>(1,400)</td>
</tr>
<tr>
<td>Bad debt (if not previously in allowance)</td>
<td>(150)</td>
</tr>
<tr>
<td>Doubtful debt</td>
<td>(280)</td>
</tr>
<tr>
<td>No income effect of cash/loan correction</td>
<td>-</td>
</tr>
<tr>
<td>Remove 2007 operating expense from 2006</td>
<td>210</td>
</tr>
<tr>
<td>No income effect regarding current mortgage portion</td>
<td>-</td>
</tr>
<tr>
<td>Amortization correction (part 1.c.)*</td>
<td>(5,260)</td>
</tr>
<tr>
<td>Capitalization (part 3.b.)</td>
<td>2,000</td>
</tr>
<tr>
<td>Further amortization due to capitalization*</td>
<td>(200)</td>
</tr>
<tr>
<td>Revised income before tax</td>
<td>$10,920</td>
</tr>
</tbody>
</table>

* These items reflect the arbitrary amortization policy of part 1.c., so any other policy would alter these.

5. a. Revised income tax expense (given): $2,100

Adjusting journal entry (husband's current tax expense estimate was $3,200):

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR Income tax payable</td>
<td>1,100</td>
</tr>
<tr>
<td>CR Current income tax expense</td>
<td>1,100</td>
</tr>
</tbody>
</table>

b. i) Revised retained earnings:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous balance</td>
<td>$12,800</td>
</tr>
<tr>
<td>Reduction of income before tax ($16,000 - $10,920)</td>
<td>(5,080)</td>
</tr>
<tr>
<td>Reduction of income tax expense</td>
<td>1,100</td>
</tr>
<tr>
<td>Revised retained earnings</td>
<td>$8,820</td>
</tr>
</tbody>
</table>

ii) Revised total assets:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous balance</td>
<td>$233,000</td>
</tr>
<tr>
<td>Inventory reduction</td>
<td>(1,400)</td>
</tr>
<tr>
<td>Bad debt (if not previously in allowance)</td>
<td>(150)</td>
</tr>
<tr>
<td>Doubtful debt</td>
<td>(280)</td>
</tr>
<tr>
<td>Amortization correction</td>
<td>(5,260)</td>
</tr>
<tr>
<td>Capitalization</td>
<td>2,000</td>
</tr>
<tr>
<td>Further amortization</td>
<td>(200)</td>
</tr>
<tr>
<td>Cash on hand correction</td>
<td>(1,000)</td>
</tr>
<tr>
<td>Revised total assets</td>
<td>$226,710</td>
</tr>
</tbody>
</table>
These calculations may be cross-checked by determining if the balance sheet balances:

- Total assets (above) $226,710
- Liabilities:
  - Previous balance $152,200
  - Bank loan correction (1,000)
  - 2004 operating expense correction (210)
  - Income tax payable correction (1,100)
  - Revised liabilities $149,890
- Shares issued (unchanged) 68,000
- Retained earnings (above) 8,820
- Total liabilities and equity $226,710

**Solution Outline for Problem 8.50**

**Part 1**

- **a.** DR Bad debt expense 368
  CR Allowance for doubtful accounts 368
  \((18,420 \times 0.05) - 553 = 368\)

- **b.** DR Cost of goods sold 690
  CR Merchandise inventory 690
  \((28,650 - 27,960) = 690\)

- **c.** DR Rent expense 4,500
  CR Prepaid rent 4,500
  \((9,000/6) \times 3 = 4,500\)

- **d.** DR Insurance expense 800
  CR Prepaid insurance 800
  \((2,400/12) \times 4 = 800\)

- **e.** DR Amortization expense 448
  CR Accumulated amortization – buildings 121
  CR accumulated amortization – equipment 327
  \((2,423 \times 0.05) + (3,268 \times 0.10) = 121 + 327 = 448\)

- **f.** No entry required

- **g.** DR Long-term debt 115
  CR Current portion of long-term debt 115
  \((1,500 - 1,385) = 115\)

- **h.** DR Wages expense $300
  CR. Wages payable $300
Part 2

<table>
<thead>
<tr>
<th>Entry</th>
<th>a. Effect on Net Income</th>
<th>b. Effect on Retained Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Decrease $ 368</td>
<td>Decrease $ 368</td>
</tr>
<tr>
<td>b.</td>
<td>Decrease $ 690</td>
<td>Decrease $ 690</td>
</tr>
<tr>
<td>c.</td>
<td>Decrease $4,500</td>
<td>Decrease $4,500</td>
</tr>
<tr>
<td>d.</td>
<td>Decrease $ 800</td>
<td>Decrease $ 800</td>
</tr>
<tr>
<td>e.</td>
<td>Decrease $ 448</td>
<td>Decrease $ 448</td>
</tr>
<tr>
<td>f.</td>
<td>No effect</td>
<td>No effect</td>
</tr>
<tr>
<td>g.</td>
<td>No effect</td>
<td>No effect</td>
</tr>
<tr>
<td>h.</td>
<td>Decrease $ 300</td>
<td>Decrease $ 300</td>
</tr>
</tbody>
</table>

TOTAL $7,106 $7,106

Part 3.
Net income = $64,360 – (38,616 +1,200 + 4,500 + 15,594) – 7,106 = 2,656 loss

Solution Outline for Case 8A
This case has several objectives:

- To review some issues involving asset capitalization (this chapter’s material);
- To bring to bear three items that appeared earlier in the course and so to help integrate students’ knowledge:
  - To add to students’ interests by providing some examination of one of the major recent financial statement manipulation stories: WorldCom;
  - To remind students that they should not accept just anything written by the media – in this case, a review of EBITDA and cash flow, both of which came up in earlier chapters;
  - To provide a platform to discuss top management’s financial reporting responsibility – which also has come up before.
- To show a CEO in a positive light – the case’s Petra Scatti is concerned about the issues and so might be a bit of a reminder that many executives have integrity. Examples like WorldCom are dramatic but may lead students to think everyone is a crook, whereas most managers are trying to do a good honest job.

The case discussion could focus on the Business Week article or, perhaps more usefully, on the questions about it raised by the case’s Ms. Scatti. Here are some general points related to her questions – students should be able to think of many more.

   - Worthwhile to make sure students know how the capitalization effects mentioned in the article work.
   - In terms of accounting entries, it really is easy to debit an asset instead of an expense.
   - Because it doesn’t affect cash flow (see below), such an entry is not likely to stand out and so may well not be picked up by external analysts and regulators.
   - The article says you need accountants who are looking for “fraud” so it might be useful to discuss the need for skepticism and even what sort of circumstances might lead a reader of the financial statements to suspect something fishy is going on, such as rapid increases in intangible or other subjective assets, promises of EPS growth that might create incentives to manipulate, lack of comparability to other companies in the industry, odd or convoluted business deals, etc.
• There are many constraints though on whether this easy entry can be written. Examples: resulting asset has to meet the test of future value that all assets must meet; entry must pass scrutiny by external auditors (admittedly it did at WorldCom, as the article points out); and there are standards of both evidence and judgment that companies should meet in setting an expense capitalization policy.
• The effect of increasing income is temporary because the capitalized asset has to be amortized, so really there is an increase in current income and a resulting decrease in subsequent years’ incomes.
• It can be a bit of a vicious circle because the increase in income this year likely creates an expectation of better incomes in the future too, so leading to an incentive to repeat the manipulation in future years – in which the manipulation has to be enough also to overcome the effect of amortizing past years’ capitalizations. (This makes such a manipulation hard to sustain over several years and so the chance of being found out increases over time – this factor might deter unscrupulous managers unless they don’t understand the way accounting works, or feel they can move on to other jobs before being found out!)

2. Cash flow.
   This issue is a reminder of the misunderstandings that can be quite stubborn. Two facets of this at least:
   1. Effects on cash flow statement:
      o Such a capitalization has no effect on cash flow. But it can seem to.
      o The decreased expense will increase income and appear to increase cash from operations because the expense which was spent (or is owed via accounts payable) would have been shown as part of the cash spent on operations, but now is removed from that.
      o Instead, the increase in noncurrent assets is shown as part of the investing activities on the cash flow statement. Unless we know something different, such a capitalization would legitimately report cash spent on increasing noncurrent assets, properly placed in the investing section.
      o As the article points out, the two effects cancel out – the same amount that is removed from cash from operations is included in cash for investing.
      o But the interpretation of the cash flow statement is certainly affected – the company appears to be generating more cash day-to-day and appears to be spending more on updating its noncurrent assets. Without knowing about the manipulation, an analyst could be seriously misled.
      o It is awkward that accounting procedures treat this noncash entry in a way that alters the cash flow, because cash flow is usually thought to be more impervious to manipulation than is accrual income (e.g. the Big Bath write-offs tend to cancel out within operations).
   2. EBITDA:
      o Such a capitalization certainly does increase EBITDA, and has the additional advantage of not reducing future EBITDAs because the amortization of the capitalized amount is not included in future EBITDAs.
      o People who use EBITDA as a replacement for cash from operations are making a mistake, because both interest and current income tax do reduce cash from operations and so EBITDA will give an over-estimate of cash from operations.
      o It’s a reminder that EBITDA is a very dangerous concept (as noted earlier in the textbook) and that understanding what you are doing is a good idea!
      o Sometimes a short cut is worse than doing something right.
3. What should a good manager do? An opportunity to discuss several topics that have arisen in the course already but can be tied to the asset capitalization/expensing subject:

- GAAP principles like fairness, objectivity, evidence, conservatism – Chapter 5.
- Value of disclosure – Chapters 2, 3 and 4 re: financial statement contents and format and Chapter 5 re: markets’ need for disclosure.
- Investors’ need to assess likely future returns and the role of public information in their assessment – Chapter 5.
- Criteria for what assets are and when to capitalize or not – several places in Chapter 8, especially the intangibles material, plus the criteria for assets in Chapter 2.
- Supplementary information to assist readers of the statements, such as footnotes and the MD&A – Chapter 5 plus accounting policy disclosures in Chapters 6 and 8.
- Role of the cash flow statement in providing a cross-check on the quality of earnings – Chapter 4 plus the earnings quality material at the end of Chapter 3.

Solution Outline for Case 8B

This case should be something to have a little fun with. The material is written in an informal style that doesn’t take the problems or accounting too seriously. Some suggestions of ways to use the case in a class discussion:

- Do an overall review of the reporter’s list of topics and discuss whether the proposed series of articles would cover the topic of accounting valuations well enough, or whether there are other topics the students or instructor would like to see included. The topics in the case are largely based on Chapter 8, at least the three parts that the reporter outlines and probably the part 4 topic too, but clearly any of them could refer to earlier material and the last part, not outlined, particularly refers back to earlier material. The three parts the reporter outlines are particularly based on section 8.2 on balance sheet valuation, but other sections of Chapter 8 can be related to the outline too, such as section 8.3’s demonstration problem, section 8.4 on the cost of an asset, and section 8.14 on intangibles.
- Discuss whether such a series of articles would be of interest, and to whom. What kinds of newspaper readers would want to read it, and for what purposes?
- Do a critique of the three sections the reporter has outlined so far – does the reporter have a good handle on the issues in each, are there any comments that indicate the reporter needs to rethink or get more information?
- Outline the contents of the two sections the reporter has not yet outlined. What kinds of topics would be useful under those two headings?
- Make suggestions about how to “bring to life” the reporter’s outline – what sorts of anecdotes, cases, examples, etc., do the students think would make the series interesting? Are there any particular attention grabbers from the textbook’s examples, or from examples that have arisen since the textbook was written, that would be usefully included?