

# CHAPTER 12


## Intangible Assets

### ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

Topics	Questions	Brief Exercises	Exercises	Problems	Concepts for Analysis
1. Intangible assets; concepts, definitions; items comprising intangible assets.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14		1, 2, 3, 5, 6	1, 2, 3, 4	1, 2, 3
2. Patents; franchise; organization costs; trade name.	9, 10, 13, 14, 25	1, 2, 3, 4, 5, 7, 12, 13	4, 5, 6, 7, 8, 9, 10, 11, 13	1, 2, 3, 4, 6	1, 2
3. Goodwill.	12, 13, 14, 18	6, 8	6, 12, 13, 15	5, 6	
4. Impairment of intangibles.	15, 16, 17, 18	7, 8, 9	14, 15	6	
5. Research and development costs and similar costs.	19, 20, 21, 22, 23, 24	10, 11, 12	16, 17	1, 2, 3	4, 5
*6. Computer software costs.	26, 27, 28	14	18, 19		

\*This material is covered in an Appendix to the chapter.

## ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

Learning Objectives	 Brief Exercises	Exercises	Problems
1. Describe the characteristics of intangible assets.		1, 2, 3	
2. Identify the costs to include in the initial valuation of intangible assets.	1, 2, 3, 5	5, 7, 9, 10, 11	1, 2, 3, 6
3. Explain the procedure for amortizing intangible assets.	1, 2, 3, 5, 12, 13	4, 5, 6, 7, 9, 10, 11, 13	1, 2, 3, 6
4. List the types of intangible assets.		1, 2, 3	
5. Explain the conceptual issues related to goodwill.		12, 13	5
6. Describe the accounting procedures for recording goodwill.	6	12, 13, 15	5, 6
7. Explain the accounting issues related to intangible-asset impairments.	7, 8, 9	14, 15	5, 6
8. Identify the conceptual issues related to research and development costs.		5, 9	
9. Describe the accounting procedures for research and development and similar costs.	4, 10, 11, 12	6, 8, 16, 17	4
10. Indicate the presentation of intangible assets and related items.	13	4	4, 6
*11. Understand the accounting treatment for computer software costs.	14	18, 19	

\*This material is covered in an Appendix to the chapter.



## CHAPTER 12

### Intangible Assets

#### ASSIGNMENT CLASSIFICATION TABLE

<u>Learning Objectives</u>	<u>Brief Exercises</u>	<u>Exercises</u>	<u>Problems</u>
1. Describe the characteristics of intangible assets.		1,2,3	
2. Identify the costs to include in the initial valuation of intangible assets.		5,7,9,10,11	1,2,3,6
3. Explain the procedure for amortizing intangible assets.		4,5,6,7,9,10,11,13	1,2,3,6
4. List the types of intangible assets.	1,2,3,5,11,12,13	1,2,3	
5. Explain the conceptual issues related to goodwill.		12,13	5
6. Describe the accounting procedures for recording goodwill.	6,11	12,13,15	5,6
7. Explain the accounting issues related to intangible-asset impairments.	7,8,9	14,15	6
8. Identify the conceptual issues related to research and development costs.	10,12	5,9	
9. Describe the accounting procedures for research and development costs and for other similar costs.	4,11	8,16,17	4
10. Indicate the presentation of intangible assets and related items.			6
*11. Understand the accounting treatment for computer software costs.	11	18,19	

## ASSIGNMENT CHARACTERISTICS TABLE

Item	Description	Level of Difficulty	Time (minutes)
E12-1	Classification issues—intangibles.	Moderate	15–20
E12-2	Classification issues—intangibles.	Simple	10–15
E12-3	Classification issues—intangible asset.	Moderate	10–15
E12-4	Intangible amortization.	Moderate	15–20
E12-5	Correct intangible asset account.	Moderate	15–20
E12-6	Recording and amortization of intangibles.	Simple	15–20
E12-7	Accounting for trade name.	Simple	10–15
E12-8	Accounting for organization costs.	Simple	10–15
E12-9	Accounting for patents, franchises, and R&D.	Moderate	15–20
E12-10	Accounting for patents.	Moderate	20–25
E12-11	Accounting for patents.	Moderate	15–20
E12-12	Accounting for goodwill.	Moderate	20–25
E12-13	Accounting for goodwill.	Simple	10–15
E12-14	Copyright impairment.	Simple	15–20
E12-15	Goodwill impairment.	Simple	15–20
E12-16	Accounting for R&D costs.	Moderate	15–20
E12-17	Accounting for R&D costs.	Moderate	10–15
*E12-18	Accounting for computer software costs.	Moderate	10–15
*E12-19	Accounting for computer software costs.	Moderate	15–20
P12-1	Correct intangible asset account.	Moderate	15–20
P12-2	Accounting for patents.	Moderate	20–30
P12-3	Accounting for franchise, patents, and trade name.	Moderate	20–30
P12-4	Accounting for R&D costs.	Moderate	20–25
P12-5	Goodwill, impairment.	Complex	25–30
P12-6	Comprehensive intangible assets.	Moderate	30–35
CA12-1	Accounting for pollution expenditure.	Moderate	25–30
CA12-2	Accounting for pre-opening costs.	Moderate	20–25
CA12-3	Accounting for patents.	Moderate	25–30
CA12-4	Accounting for research and development costs.	Moderate	25–30
CA12-5	Accounting for research and development costs.	Moderate	20–25

# ANSWERS TO QUESTIONS

1. The two main characteristics of intangible assets are:
  - (a) they lack physical substance.
  - (b) they are not a financial instrument.
2. If intangibles are acquired for stock, the cost of the intangible is the fair value of the consideration given or the fair value of the consideration received, whichever is more clearly evident.
3. Limited-life intangibles should be amortized by systematic charges to expense over their useful life. An intangible asset with an indefinite life is not amortized.
4. When intangibles are created internally, it is often difficult to determine the validity of any future service potential. To permit deferral of these types of costs would lead to a great deal of subjectivity because management could argue that almost any expense could be capitalized on the basis that it will increase future benefits. The cost of purchased intangibles, however, is capitalized because its cost can be objectively verified and reflects its fair value at the date of acquisition.
5. Companies cannot capitalize self-developed, self-maintained, or self-created goodwill. These expenditures would most likely be reported as selling expenses.
6. Factors to be considered in determining useful life are:
  1. The expected use of the asset by the entity.
  2. The expected useful life of another asset or a group of assets to which the useful life of the intangible asset may relate.
  3. Any legal, regulatory, or contractual provisions that may limit useful life.
  4. Any legal, regulatory or contractual provisions that enable renewal or extension of the asset's legal or contractual life without substantial cost.
  5. The effects of obsolescence, demand, competition, and other economic factors.
  6. The level of maintenance expenditure required to obtain the expected future cash flows from the asset.
7. The amount of amortization expensed for a limited-life intangible asset should reflect the pattern in which the asset is consumed or used up, if that pattern can be reliably determined. If the pattern of production or consumption cannot be determined, the straight-line method of amortization should be used.
8. This trademark is an indefinite life intangible and, therefore, should not be amortized.
9. The \$190,000 should be expensed as research and development expense in 2006. The \$91,000 is expensed as selling and promotion expense in 2006. The \$45,000 of costs to legally obtain the patent should be capitalized and amortized over the useful or legal life of the patent, whichever is shorter.
10. 

Patent Amortization Expense	45,000	
Patents (or Accumulated Amortization-Patents)		45,000
11. Artistic-related intangible assets involve ownership rights to plays, pictures, photographs, and video and audiovisual material. These ownership rights are protected by copyrights. Contract related intangible assets represent the value of rights that arise from contractual arrangements. Examples are franchise and licensing agreements, construction permits, broadcast rights, and service or supply contracts.

## Questions Chapter 12 (Continued)

12. Varying approaches are used to define goodwill. They are
- (a) Goodwill should be measured initially as the excess of the fair value of the acquisition cost over the fair value of the net assets acquired. This definition is a measurement definition but does not conceptually define goodwill.
  - (b) Goodwill is sometimes defined as one or more unidentified intangible assets and identifiable intangible assets that are not reliably measurable. Examples of elements of goodwill include new channels of distribution, synergies of combining sales forces, and a superior management team.
  - (c) Goodwill may also be defined as the intrinsic value that a business has acquired beyond the mere value of its net assets whether due to the personality of those conducting it, the nature of its location, its reputation, or any other circumstance incidental to the business and tending to make it permanent. Another definition is the capitalized value of the excess of estimated future profits of a business over the rate of return on capital considered normal in the industry.

Negative goodwill develops when the fair value of the assets purchased is higher than the cost. This situation may develop from a market imperfection. In this case, the seller would have been better off to sell the assets individually than in total. However, situations do occur (e.g., a forced liquidation or distressed sale due to the death of the company founder), in which the purchase price is less than the value of the identifiable net assets.

13. Goodwill is recorded only when it is acquired by purchase. Goodwill acquired in a business combination is considered to have an indefinite life and therefore should not be amortized, but should be tested for impairment on at least an annual basis.
14. Many analysts believe that the value of goodwill is so subjective that it should not be given the same status as other types of assets such as cash, receivables, inventory, etc. The analysts are simply stating that they believe that presentation of goodwill on the balance sheet does not provide any useful information to the users of financial statements. Whether this is true or not is a difficult point to prove, but it should be noted that it appears contradictory to pay for the goodwill and then immediately write it off, denying that it has any value.
15. Accounting standards require that if events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable, then the carrying amount of the asset should be assessed. The assessment or review takes the form of a recoverability test that compares the sum of the expected future cash flows from the asset (undiscounted) to the carrying amount. If the cash flows are less than the carrying amount, the asset has been impaired. The impairment loss is measured as the amount by which the carrying amount exceeds the fair value of the asset. The fair value of assets is measured by their market value if an active market for them exists. If no market price is available, the present value of the expected future net cash flows from the asset may be used.
16. Under U.S. GAAP, impairment losses on assets held for use may not be restored.
17. Impairment losses are reported as part of income from continuing operations, generally in the "Other expenses and losses" section. Impairment losses (and recovery of losses for assets to be disposed of) are similar to other costs that would flow through operations. Thus, gains (recoveries of losses) on assets to be disposed of should be reported as part of income from continuing operations.
18. The amount of goodwill impaired is \$20,000, computed as follows:
- |                   |                  |
|-------------------|------------------|
| Recorded goodwill | \$400,000        |
| Implied goodwill  | <u>380,000</u>   |
| Impaired goodwill | <u>\$ 20,000</u> |

**Questions Chapter 12 (Continued)**

19. Research and development costs are incurred to develop new products or processes, to improve present products, or to discover new knowledge. R & D expenditures present problems of (1) identifying the costs associated with particular activities, projects, or achievements, and (2) determining the magnitude of the future benefits and the length of time over which such benefits may be realized. R & D activities may incur costs classified as follows: (a) materials, equipment, and facilities, (b) personnel, (c) purchased intangibles, (d) contract services, and (e) indirect costs.
20. (a) Personnel (labor) type costs incurred in R & D activities should be expensed as incurred.  
 (b) Materials and equipment costs should be expensed immediately unless the items have alternative future uses. If the items have alternative future uses, the materials should be recorded as inventories and allocated as consumed and the equipment should be capitalized and depreciated as used.  
 (c) Indirect costs of R & D activities should be reasonably allocated to R & D (except for general and administrative costs, which must be clearly related to be included) and expensed.
21. See Illustration 12-14.  
 (a) Expense as R&D.  
 (b) Expense as R&D.  
 (c) Capitalize as patent and/or license and amortize.
22. Each of these items should be charged to current operations. Advertising costs have some minor exceptions to this general rule. However, the specific accounting is beyond the scope of this textbook.
23. \$605,000 (\$420,000 + \$60,000 + \$125,000).
24. These costs are referred to as start-up costs, or more specifically organizational costs in this case. The accounting for start up costs is straightforward—expense these costs as incurred. The profession recognizes that these costs are incurred with the expectation that future revenues will occur or increased efficiencies will result. However, to determine the amount and timing of future benefits is so difficult that a conservative approach—expensing these costs as incurred—is required.
25. The total life, per revised facts, is 40 years (10 + 30). There are 30 (40 – 10) remaining years for amortization purposes. Original amortization:  $\frac{\$450,000}{30} = \$15,000$  per year;  $\$15,000 \times 10$  years expired = \$150,000 accumulated amortization.
- |                  |                            |
|------------------|----------------------------|
| \$450,000        | original cost              |
| <u>-150,000</u>  | accumulated amortization   |
| <u>\$300,000</u> | remaining cost to amortize |
- \$300,000 ÷ 30 years = \$10,000 amortization for 2006 and years thereafter
- \*26. The profession's position is that costs incurred internally in creating a computer software product to be sold should be charged to expense when incurred as research and development until technological feasibility has been established for the product. Technological feasibility is established upon completion of a detailed program design or, in its absence, completion of a working model. Thereafter, all software costs should be capitalized and subsequently reported at the lower of unamortized cost or net realizable value. Capitalized costs are amortized based on current and future revenue for each product with an annual minimum equal to straight-line amortization over the remaining estimated economic life of the product.

**Questions Chapter 12 (Continued)**

- \*27. Under the percent of revenue approach, \$800,000  $\left( \$4,000,000 \times \frac{\$2,000,000}{\$2,000,000 + \$8,000,000} \right)$  would be reported; under the straight-line approach, \$1,000,000 would be reported. Because the straight-line approach is higher, \$1,000,000 should be reported as R & D expense for this product.
- \*28. Expensing the development cost in the current year is appropriate when the costs are classified as research and development costs and the computer software is to be sold, leased, or marketed to third parties.

Capitalizing the development cost of the software package over its estimated useful life is appropriate if the costs are subsequent to achieving technological feasibility and future benefits are reasonably certain.

Stakeholders (users of financial statements or parties affected by financial statements) may be harmed whenever expenses and revenues are mismatched. Inappropriate recognition of development costs can harm all parties involved due to any understatement and overstatement of income.

# SOLUTIONS TO BRIEF EXERCISES

**BRIEF EXERCISE 12-1**

Patents.....	64,000	
Cash.....		64,000
Patent Amortization Expense .....	6,400	
Patents ( $\$64,000 \times 1/10 = \$6,400$ ) .....		6,400

**BRIEF EXERCISE 12-2**

Patents.....	24,000	
Cash.....		24,000
Patent Amortization Expense .....	9,400	
Patents [ $(\$51,200 + \$24,000) \times 1/8 = \$9,400$ ] .....		9,400

**BRIEF EXERCISE 12-3**

Trade Name.....	60,000	
Cash.....		60,000
Trade Name Amortization Expense .....	7,500	
Trade Names ( $\$60,000 \times 1/8 = \$7,500$ ).....		7,500

**BRIEF EXERCISE 12-4**

Organization Cost Expense.....	70,000	
Cash.....		70,000

### BRIEF EXERCISE 12-5

Franchise.....	100,000	
Cash .....		100,000
Franchise Amortization Expense.....	9,375	
Franchise ( $\$100,000 \times 1/8 \times 9/12 = \$9,375$ ) .....		9,375

### BRIEF EXERCISE 12-6

Purchase price		\$750,000
Fair value of assets	\$800,000	
Fair value of liabilities	<u>200,000</u>	
Fair value of net assets		<u>600,000</u>
Value assigned to goodwill		<u>\$150,000</u>

### BRIEF EXERCISE 12-7

Loss on Impairment.....	220,000	
Patents ( $\$330,000 - \$110,000$ ) .....		220,000

**Note:** An impairment has occurred because expected net future cash flows (\$190,000) are less than the carrying amount (\$330,000). The loss is measured as the difference between the carrying amount and fair value (\$110,000).

### BRIEF EXERCISE 12-8

Because the fair value of the division exceeds the carrying amount of the assets, goodwill is not considered to be impaired. No entry is necessary.

**BRIEF EXERCISE 12-9**

Loss on Impairment (\$400,000 – \$325,000) .....	75,000	
Goodwill .....		75,000

The fair value of the reporting unit (\$750,000) is less than the carrying value (\$800,000)—an impairment has occurred. The loss is the difference between the recorded goodwill and the implied goodwill.

**BRIEF EXERCISE 12-10**

Research and Development Expense .....	450,000	
Cash.....		450,000

**BRIEF EXERCISE 12-11**

- (a) Capitalize
- (b) Expense
- (c) Expense
- (d) Expense

**BRIEF EXERCISE 12-12**

	<u>Carrying Amount</u>	<u>Life in Months</u>	<u>Amortization Per Month</u>	<u>Months Amortization</u>
Patent (1/1/07)	\$240,000	96	\$2,500	12
Legal costs (12/1/07)	<u>85,000</u>	85	\$1,000	1
	<u>\$325,000</u>			

Carrying amount	\$325,000
Less: Amortization of Patent (12 X \$2,500)	(30,000)
Legal costs Amortization (1 X \$1,000)	<u>(1,000)</u>
Carrying amount 12/31/07	<u>\$294,000</u>

## **BRIEF EXERCISE 12-13**

**Copyright No. 1 for \$9,900 should be expensed and therefore not reported on the balance sheet.**

**Copyright No. 2 for \$19,200 should be capitalized. Because the useful life is indefinite, copyright No. 2 should be tested at least annually for impairment using a fair value test. It would be reflected on the December 31, 2007 balance sheet at its cost of \$19,200.**

## **\*BRIEF EXERCISE 12-14**

### **Percent of revenue approach**

$$\text{\$700,000} \times \frac{\text{\$420,000}}{\text{\$1,400,000}^*} = \text{\$210,000}$$

**\*(\$420,000 + \$980,000)**

### **Straight-line approach**

$$\text{\$700,000} \times 1/4 = \text{\$175,000}$$

**Amortization is \$210,000**

# SOLUTIONS TO EXERCISES

## EXERCISE 12-1 (15–20 minutes)

- (a) 10, 13, 15, 16, 17, 19, 23
- (b)
1. Long-term investments in the balance sheet.
  2. Property, plant, and equipment in the balance sheet.
  3. Research and development expense in the income statement.
  4. Current asset (prepaid rent) in the balance sheet.
  5. Property, plant, and equipment in the balance sheet.
  6. Research and development expense in the income statement.
  7. Charge as expense in the income statement.
  8. Operating losses in the income statement.
  9. Charge as expense in the income statement.
  11. Not recorded; any costs related to creating goodwill incurred internally must be expensed.
  12. Research and development expense in the income statement.
  14. Research and development expense in the income statement.
  18. Research and development expense in the income statement.
  20. Research and development expense in the income statement.
  21. Long-term investments, or other assets, in the balance sheet.
  22. Expensed in the income statement.

## EXERCISE 12-2 (10–15 minutes)

The following items would be classified as an intangible asset:

Cable television franchises	Film contract rights
Music copyrights	Customer lists
Goodwill	Covenants not to compete
Internet domain name	Brand names

Cash, accounts receivable, notes receivable, and prepaid expenses would be classified as current assets.

Property, plant, and equipment, and land would be classified as non-current assets in the property, plant, and equipment section.

## EXERCISE 12-2 (Continued)

Investments in affiliated companies would be classified as part of the investments section of the balance sheet.

Research and development costs would be classified as an operating expense.

Discount on notes payable is shown as a deduction from the related notes payable on the balance sheet.

Organization costs are start-up costs and should be expensed as incurred.

## EXERCISE 12-3 (10–15 minutes)

(a)	Trademarks	\$15,000
	Excess of cost over fair value of net identifiable assets of acquired subsidiary (goodwill)	<u>75,000</u>
	Total intangible assets	<u>\$90,000</u>

- (b) Organization costs, \$24,000, should be expensed. Discount on bonds payable, \$35,000, should be reported as a contra account to bonds payable in the long-term liabilities section.

Deposits with advertising agency for ads to promote goodwill of company, \$10,000, should be reported either as an expense or as prepaid advertising in the current assets section. Advertising costs in general are expensed when incurred or when first used.

Cost of equipment acquired for research and development projects, \$90,000, should be reported with property, plant, and equipment, because the equipment has an alternative use.

Costs of developing a secret formula for a product that is expected to be marketed for at least 20 years, \$80,000, should be classified as research and development expense on the income statement.

**EXERCISE 12-4 (15–20 minutes)**

- Alatorre should report the patent at \$600,000 (net of \$400,000 accumulated amortization) on the balance sheet. The computation of accumulated amortization is as follows.

Amortization for 2005 and 2006 ( $\$1,000,000/10$ ) X 2	\$200,000
2007 amortization: $(\$1,000,000 - \$200,000) \div (6 - 2)$	<u>200,000</u>
Accumulated amortization, 12/31/07	<u>\$400,000</u>

- Alatorre should amortize the franchise over its estimated useful life. Because it is uncertain that Alatorre will be able to retain the franchise at the end of 2015, it should be amortized over 10 years. The amount of amortization on the franchise for the year ended December 31, 2007, is \$40,000:  $(\$400,000/10)$ .
- These costs should be expensed as incurred. Therefore \$275,000 of organization expense is reported in income for 2007.
- Because the license can be easily renewed (at nominal cost), it has an indefinite life. Thus, no amortization will be recorded. The license will be tested for impairment in future periods.

**EXERCISE 12-5 (15–20 minutes)**

Research and Development Expense .....	940,000	
Patents.....	75,000	
Rent Expense $[(5 \div 7) \times \$91,000]$ .....	65,000	
Prepaid Rent $[(2 \div 7) \times \$91,000]$ .....	26,000	
Advertising Expense.....	207,000	
Income Summary .....	241,000	
Discount on Bonds Payable.....	82,950*	
Interest Expense .....	1,050	
Paid in Capital in Excess of Par on Common Stock.....		250,000
Intangible Assets .....		<u>1,388,000</u>

\* $84,000 \div 240 \text{ months} = \$350$ ;  $\$350 \times 3 = \$1,050$ ;  $\$84,000 - \$1,050 = \$82,950$

Patent Amortization Expense $[(\$75,000 \div 10) \times 1/2]$ ...	3,750	
Patents (or Accumulated Amortization)		<u>3,750</u>

**EXERCISE 12-6 (15–20 minutes)**

Patents .....	350,000	
Goodwill.....	360,000	
Franchise.....	450,000	
Copyright.....	156,000	
Research and Development Expense.....	215,000	
<b>Intangible Assets .....</b>		<b>1,531,000</b>
Amortization Expense.....	79,250	
Patents (\$350,000/8).....		43,750
Franchise (\$450,000/10 X 6/12).....		22,500
Copyright (\$156,000/5 X 5/12).....		13,000

**Balance of Intangible Assets as of December 31, 2007**

Patents =	$\$350,000 - \$43,750 = \$306,250$
Goodwill =	$\$360,000$ (no amortization)
Franchise =	$\$450,000 - \$22,500 = \$427,500$
Copyright =	$\$156,000 - \$13,000 = \$143,000$

**EXERCISE 12-7 (10–15 minutes)**

- (a) 2006 amortization:  $\$16,000 \div 10 = \$1,600$ .  
 12/31/06 book value:  $\$16,000 - \$1,600 = \$14,400$ .
- 2007 amortization:  $(\$14,400 + \$7,800) \div 9 = \$2,467$ .  
 12/31/07 book value:  $(\$14,400 + \$7,800 - \$2,467) = \$19,733$ .
- (b) 2007 amortization:  $(\$14,400 + \$7,800) \div 4 = \$5,550$ .  
 12/31/07 book value:  $\$14,400 + \$7,800 - \$5,550 = \$16,650$ .
- (c) Carrying amount (\$19,733) > future cash flows (\$16,000); thus the trade name fails the recoverability test. The new carrying value is \$15,000—the trade name’s fair value.
- 2008 amortization (after recording impairment loss):  
 $\$15,000 \div 8 = \$1,875$ .  
 12/31/08 book value:  $\$15,000 - \$1,875 = \$13,125$ .

**EXERCISE 12-8 (10–15 minutes)**

(a) Attorney's fees in connection with organization of the company	\$15,000
Costs of meetings of incorporators to discuss organizational activities	7,000
State filing fees to incorporate	<u>1,000</u>
Total organization costs	<u>\$23,000</u>

Drafting and design equipment, \$10,000, should be classified as part of fixed assets, rather than as organization costs.

(b) Organization Cost Expense.....	23,000	
Cash (Payables).....		23,000

**EXERCISE 12-9 (15–20 minutes)**

(a) **Jimmy Carter Company**  
**INTANGIBLES SECTION OF BALANCE SHEET**  
**December 31, 2007**

Patent from Ford Company, net of accumulated amortization of \$560,000 (Schedule 1)	\$1,440,000
Franchise from Reagan Company, net of accumulated amortization of \$48,000 (Schedule 2)	<u>432,000</u>
Total intangibles	<u>\$1,872,000</u>

**Schedule 1 Computation of Patent from Ford Company**

Cost of patent at date of purchase	\$2,000,000
Amortization of patent for 2006 ( $\$2,000,000 \div 10$ years)	<u>(200,000)</u>
	1,800,000
Amortization of patent for 2007 ( $\$1,800,000 \div 5$ years)	<u>(360,000)</u>
Patent balance	<u>\$1,440,000</u>

**Schedule 2 Computation of Franchise from Reagan Company**

Cost of franchise at date of purchase	\$ 480,000
Amortization of franchise for 2007 ( $\$480,000 \div 10$ )	<u>(48,000)</u>
Franchise balance	<u>\$ 432,000</u>

**EXERCISE 12-9 (Continued)**

**(b) Jimmy Carter Company  
Income Statement Effect  
For the year ended December 31, 2007**

<b>Patent from Ford Company:</b>		
Amortization of patent for 2007		
(\$1,800,000 ÷ 5 years)		<b>\$360,000</b>
<b>Franchise from Reagan Company:</b>		
Amortization of franchise for 2007		
(\$480,000 ÷ 10)	\$ 48,000	
Payment to Reagan Company		
(\$2,500,000 X 5%)	<u>125,000</u>	<b>173,000</b>
<b>Research and development costs</b>		<u><b>433,000</b></u>
<b>Total charged against income</b>		<u><b>\$966,000</b></u>

**EXERCISE 12-10 (15–20 minutes)**

<b>(a)</b>	<b>2003</b>	<b>Research and Development Expense .....</b>	<b>170,000</b>	
		<b>Cash .....</b>		<b>170,000</b>
		<b>Patents .....</b>	<b>18,000</b>	
		<b>Cash .....</b>		<b>18,000</b>
		<b>Patent Amortization Expense .....</b>	<b>450</b>	
		<b>Patents [(\$18,000 ÷ 10) X 3/12] .....</b>		<b>450</b>
	<b>2004</b>	<b>Patent Amortization Expense .....</b>	<b>1,800</b>	
		<b>Patents (\$18,000 ÷ 10) .....</b>		<b>1,800</b>

**EXERCISE 12-10 (Continued)**

<b>(b)</b>	<b>2005</b>	<b>Patents .....</b>	<b>9,480</b>	
		<b>Cash .....</b>		<b>9,480</b>
		<b>Patent Amortization Expense .....</b>	<b>1,940</b>	
		<b>Patents (\$750 + \$1,190) .....</b>		<b>1,940</b>
		<b>[Jan. 1–June 1: (\$18,000 ÷ 10) X</b>		
		<b>5/12 = \$750</b>		
		<b>June 1–Dec. 31: (\$18,000 – \$450 –</b>		
		<b>\$1,800 – \$750 + \$9,480) = \$24,480;</b>		
		<b>(\$24,480 ÷ 12) X 7/12 = \$1,190]</b>		
	<b>2006</b>	<b>Patent Amortization Expense .....</b>	<b>2,040</b>	
		<b>Patents (\$24,480 ÷ 12) .....</b>		<b>2,040</b>
<b>(c)</b>	<b>2007 and 2008</b>	<b>Patent Amortization Expense .....</b>	<b>10,625</b>	
		<b>Patents (\$21,250 ÷ 2) .....</b>		<b>10,625</b>
		<b>(\$24,480 – \$1,190 – \$2,040) = \$21,250</b>		

**EXERCISE 12-11**

<b>(a)</b>	<b><u>Patent A</u></b>	
	<b>Life in years</b>	<b>17</b>
	<b>Life in months (12 X 17)</b>	<b>204</b>
	<b>Amortization per month (\$30,600 ÷ 204)</b>	<b>\$150</b>
	<b>Number of months amortized to date</b>	
	<b><u>Year</u></b>	<b><u>Month</u></b>
	<b>2003</b>	<b>10</b>
	<b>2004</b>	<b>12</b>
	<b>2005</b>	<b>12</b>
	<b>2006</b>	<b><u>12</u></b>
		<b><u>46</u></b>

**Book value 12/31/06 \$23,700: (\$30,600 – [46 X \$150])**

## EXERCISE 12-11 (Continued)

### Patent B

Life in years	10
Life in months (12 X 10)	120
Amortization per month ( $\$15,000 \div 120$ )	\$125
Number of months amortized to date	

<u>Year</u>	<u>Month</u>
2004	6
2005	12
2006	<u>12</u>
	<u>30</u>

Book value 12/31/06 \$11,250: ( $\$15,000 - [\$125 \times 30]$ )

### Patent C

Life in years	4
Life in months (12 X 4)	48
Amortization per month ( $\$14,400 \div 48$ )	\$300
Number of months amortized to date	

<u>Year</u>	<u>Month</u>
2005	4
2006	<u>12</u>
	<u>16</u>

Book value 12/31/06 \$9,600: ( $\$14,400 - [\$300 \times 16]$ )

At December 31, 2006

Patent A	\$23,700
Patent B	11,250
Patent C	<u>9,600</u>
Total	<u>\$44,550</u>

## EXERCISE 12-11 (Continued)

### (b) Analysis of 2007 transactions

1. The \$245,700 incurred for research and development should be expensed.
2. The book value of Patent B is \$11,250 and its estimated future cash flows are \$6,000: (3 X \$2,000); therefore Patent B is impaired. The impairment loss is imputed as follows:

Book value	\$11,250
Less: Present value of future cash flows (\$2,000 X 2.57710)	<u>5,154</u>
Loss recognized	<u>\$ 6,096</u>

Patent B carrying amount (12/31/07) \$5,154

At December 31, 2007

Patent A	\$21,900	(\$23,700 – [12 X \$150])
Patent B	5,154	(Present value of future cash flows)
Patent C	6,000	(\$9,600 – [12 X \$300])
Patent D	<u>34,560</u>	(\$36,480 – \$1,920*)
Total	<u>\$67,614</u>	

### Patent D amortization

Life in years	9 1/2
Life in months	114
Amortization per month (\$36,480 ÷ 114)	\$320
\$320 X 6 = \$1,920	

**EXERCISE 12-12**

Net assets of Zweifel as reported		\$225,000
Adjustments to fair value		
Increase in land value	30,000	
Decrease in equipment value	<u>(5,000)</u>	<u>25,000</u>
Net assets of Zweifel at fair value		250,000
Selling price		<u>350,000</u>
Amount of goodwill to be recorded		<u>\$100,000</u>

The journal entry to record this transaction is as follows:

Cash .....	100,000	
Land .....	100,000	
Building.....	200,000	
Equipment.....	170,000	
Copyright.....	30,000	
Goodwill.....	100,000	
Accounts Payable.....		50,000
Long-term Notes Payable .....		300,000
Cash .....		350,000

**EXERCISE 12-13 (10–15 minutes)**

(a) Cash .....	50,000	
Receivables .....	90,000	
Inventory .....	125,000	
Land .....	60,000	
Buildings .....	75,000	
Equipment.....	70,000	
Trademarks.....	15,000	
Goodwill.....	65,000*	
Accounts Payable.....		200,000
Notes Payable .....		100,000
Cash .....		250,000

\*\$365,000 – [\$235,000 + \$20,000 + \$25,000 + \$5,000]

Note that the building and equipment would be recorded at the 7/1/06 cost to Brigham; accumulated depreciation accounts would not be recorded.

**EXERCISE 12-13 (Continued)**

(b)	Trademark Amortization Expense.....	1,500	
	Trademarks ( $[\$15,000 - \$3,000] \times 1/4 \times 6/12$ ).....		1,500

**EXERCISE 12-14 (15–20 minutes)**

(a)	December 31, 2007		
	Loss on Impairment .....	1,100,000*	
	Copyrights .....		1,100,000

*Carrying amount	\$4,300,000
Fair value	<u>3,200,000</u>
Loss on impairment	<u>\$1,100,000</u>

Note: Asset fails recoverability test.

(b)	Copyright Amortization Expense .....	320,000*	
	Copyrights .....		320,000

*New carrying amount	\$3,200,000
Useful life	<u>÷ 10 years</u>
Amortization per year	<u>\$ 320,000</u>

(c) No entry is necessary. Restoration of any impairment loss is not permitted for assets held for use.

**EXERCISE 12-15 (15–20 minutes)**

(a)	December 31, 2007		
	Loss on Impairment .....	15,000,000	
	Goodwill .....		15,000,000

The fair value of the reporting unit (\$335 million) is below its carrying value (\$350 million). Therefore, an impairment has occurred. To determine the impairment amount, we first find the implied goodwill. We then compare this implied fair value to the carrying value of the goodwill to determine the amount of the impairment to record.

**EXERCISE 12-15 (Continued)**

Fair value of division	<b>\$335,000,000</b>
Carrying amount of division, net of goodwill	<u>150,000,000</u>
Implied value of goodwill	<b>185,000,000</b>
Carrying value of goodwill	<u>(200,000,000)</u>
Loss on impairment	<b><u>\$ 15,000,000</u></b>

- (b) No entry necessary. After a goodwill impairment loss is recognized, the adjusted carrying amount of the goodwill is its new accounting basis. Subsequent reversal of previously recognized impairment losses is not permitted under SFAS No. 142.

**EXERCISE 12-16 (15–20 minutes)**

- (a) In accordance with FASB Statement No. 2, the \$325,000 is a research and development cost that should be charged to R & D Expense and, if not separately disclosed in the income statement, the total cost of R & D should be separately disclosed in the notes to the financial statements.

(b) Research and Development Expense.....	110,000	
Cash, Accts. Payable, etc. ....		110,000
(To record research and development costs)		
 Patents .....	 16,000	
Cash, Accts. Payable, etc. ....		16,000
(To record legal and administrative costs incurred to obtain patent #472-1001-84)		
 Patent Amortization Expense.....	 3,200	
Patents .....		3,200
[To record one year's amortization expense (\$16,000 ÷ 5 = \$3,200)]		

**EXERCISE 12-16 (Continued)**

(c) Patents.....	47,200	
Cash, Accts. Payable, etc.....		47,200
(To record legal cost of successfully defending patent)		

The cost of defending the patent is capitalized because the defense was successful and because it extended the useful life of the patent.

Patent Amortization Expense .....	7,500	
Patents.....		7,500
(To record one year's amortization Expense: \$16,000 – \$3,200 = \$12,800; \$12,800 ÷ 8 = \$1,600 \$47,200 ÷ 8 = <u>5,900</u> Amortization expense for 2008 <u>\$7,500</u> )		

- (d) Additional engineering and consulting costs required to advance the design of a product to the manufacturing stage are R & D costs. As indicated in the chapter it is R & D because it translates knowledge into a plan or design for a new product.

**EXERCISE 12-17 (10–12 minutes)**

Depreciation of equipment acquired that will have alternate uses in future research and development projects over the next 5 years ( $\$280,000 \div 5$ )	\$ 56,000
Materials consumed in research and development projects	59,000
Consulting fees paid to outsiders for research and development projects	100,000
Personnel costs of persons involved in research and development projects	128,000
Indirect costs reasonably allocable to research and development projects	<u>50,000</u>
Total to be expensed in 2007 for research and development	<u>\$393,000*</u>

\*Materials purchased for future R&D projects should be reported as an asset.

**\*EXERCISE 12-18 (10–15 minutes)**

(a) Companies are required to use the greater of (1) the ratio of current revenues to current plus anticipated revenues (percent of revenue approach) or (b) the straight-line method over the remaining useful life of the asset to amortize capitalized computer software costs.

(b) Percent of revenue approach:  $\frac{\$2,000,000}{\$12,000,000} \times \$3,600,000 = \underline{\$600,000}$

Straight-line method:  $1/5 \times \$3,600,000 = \underline{\$720,000}$

Amortization for 2007 would be \$720,000 by the straight-line method because it results in the greater amount.

**\*EXERCISE 12-19 (15–20 minutes)**

(a)	Research and Development Expense.....	2,200,000	
	Cash .....		2,200,000

	Computer Software Costs .....	2,800,000	
	(\$5,000,000 – \$2,200,000)		
	Cash .....		2,800,000

(b)	Amortization Expense (20% X \$2,800,000).....	560,000	
	Computer Software Costs.....		560,000

(Percent of revenue, \$3,200,000/  
\$16,000,000 = 20%; 20% X \$2,800,000 =  
\$560,000; straight-line, 1/8 X \$2,800,000 =  
\$350,000; use percent of revenue  
approach because it's greater than  
straight-line, 1/8 = 12.5%)

(c) The computer software costs should be reported in the 12/31/07 balance sheet at unamortized cost (\$2,800,000 – \$560,000 = \$2,240,000) unless net realizable value is lower.

**\*EXERCISE 12-19 (Continued)**

- (d) Delaware Enterprises should disclose in its December 31, 2008, financial statements the unamortized computer software costs included in the balance sheet presented, and the total amount charged to expense in the income statement presented for amortization of capitalized computer software costs and for amounts written down to net realizable value.**
  
- (e) FASB Standard No. 86 applies only to the development of computer software that is to be sold, leased, or otherwise marketed to third parties. No FASB statement specifically addresses the issue of computer software developed for internal use. In practice, such costs are generally expensed as incurred. Therefore, the total of \$5,000,000 would be expensed in (a), there would be no amortization in (b), and computer software costs would not be reported on the balance sheet in (c).**

# TIME AND PURPOSE OF PROBLEMS

**Problem 12-1** (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to appropriately reclassify amounts charged to a single intangible asset account. Capitalized in the account are amounts representing franchise costs, prepaid rent, organization fees, prior net loss, patents, goodwill, and R & D costs. The student must also be alert to the fact that several transactions require that an adjustment of Retained Earnings be made. The problem provides a good summary of accounting for intangibles.

**Problem 12-2** (Time 20–30 minutes)

Purpose—to provide the student with an opportunity to compute the carrying value of a patent at three balance sheet dates. The student must distinguish between expenditures that are properly included in the patent account and R & D costs which must be expensed as incurred. Computation of amortization is slightly complicated by additions to the account and a change in the estimated useful life of the patents. A good summary of accounting for patents and R & D costs.

**Problem 12-3** (Time 20–30 minutes)

Purpose—the student determines the cost and amortization of a franchise, patent, and trademark and shows how they are disclosed on the balance sheet. The student prepares a schedule of expenses resulting from the intangibles transactions.

**Problem 12-4** (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to determine income statement and balance sheet presentation for costs related to research and development of patents. The problem calls on the student to determine whether costs incurred are properly capitalized or expensed. The problem addresses the basic issues involved in accounting for R & D costs and patents.

**Problem 12-5** (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to determine the amount of goodwill in a business combination and to determine the goodwill impairment.

**Problem 12-6** (Time 30–35 minutes)

Purpose—to provide the student with an opportunity to determine carrying value of intangible assets (limited life, indefinite life, and goodwill) at two balance sheet dates. The problem also requires students to determine impairments, if necessary on the intangible assets.

# SOLUTIONS TO PROBLEMS

<b>PROBLEM 12-1</b>
---------------------

Franchises.....	42,000	
Prepaid Rent.....	28,000	
Retained Earnings (Organization Costs of \$6,000 in 2006) .....	6,000	
Retained Earnings (\$16,000 – \$6,000).....	10,000	
Patents (\$74,000 + \$12,650).....	86,650	
Research and Development Expense .....		
(\$75,000 + \$160,000) .....	235,000	
Goodwill .....	278,400	
Intangible Assets.....		686,050
Franchise Amortization Expense ( $\$42,000 \div 8$ ) .....	5,250	
Retained Earnings ( $\$42,000 \div 8 \times 6/12$ ) .....	2,625	
Franchises .....		7,875
Rent Expense ( $\$28,000 \div 2$ ) .....	14,000	
Retained Earnings ( $\$28,000 \div 2 \times 3/12$ ) .....	3,500	
Prepaid Rent .....		17,500
Patent Amortization Expense .....	8,170	
Patents.....		8,170
( $\$74,000 \div 10$ ) + ( $\$12,650 \times 7/115$ )		

**Note—No amortization of goodwill; goodwill should be tested for impairment on at least an annual basis in future periods.**

<b>PROBLEM 12-2</b>
---------------------

<b>(a)</b>	Costs to obtain patent Jan. 2000	\$62,050
	2000 amortization ( $\$62,050 \div 17$ )	<u>(3,650)</u>
	Carrying value, 12/31/00	<u>\$58,400</u>

All costs incurred prior to January 2000 are related to research and development activities and were expensed as incurred in accordance with FASB Statement No. 2.

<b>(b)</b>	1/1/01 carrying value of patent		\$58,400
	2001 amortization ( $\$62,050 \div 17$ )	\$3,650	
	2002 amortization	<u>3,650</u>	<u>(7,300)</u>
			51,100
	Legal fees to defend patent 12/02		<u>35,700</u>
	Carrying value, 12/31/02		86,800
	2003 amortization ( $\$86,800 \div 14$ )	6,200	
	2004 amortization	<u>6,200</u>	<u>(12,400)</u>
	Carrying value, 12/31/04		<u>\$74,400</u>

The costs incurred in 2001 and 2003 are related to research and development activities as defined in FASB Statement No. 2 and are expensed as incurred.

<b>(c)</b>	1/1/05 carrying value		\$74,400
	2005 amortization ( $\$74,400 \div 5$ )	\$14,880	
	2006 amortization	14,880	
	2007 amortization	<u>14,880</u>	<u>(44,640)</u>
	Carrying value, 12/31/07		<u>\$29,760</u>

The legal costs in 2007 were expensed because the suit was unsuccessful.

<b>PROBLEM 12-3</b>
---------------------

(a) **Haerhpin Corporation**  
**Intangible Assets**  
**December 31, 2007**

<b>Franchise, net of accumulated amortization of \$5,870</b>	
(Schedule 1)	\$52,830
<b>Patent, net of accumulated amortization of \$1,700</b>	
(Schedule 2)	11,900
<b>Trademark, net of accumulated amortization of \$5,840</b>	
(Schedule 3)	<u>34,320</u>
<b>Total intangible assets</b>	<u>\$99,050</u>

<u>Schedule 1</u>	<u>Franchise</u>	
Cost of franchise on 1/1/07 (\$15,000 + \$43,700)		\$58,700
2007 amortization (\$58,700 X 1/10)		<u>(5,870)</u>
Cost of franchise, net of amortization		<u>\$52,830</u>

<u>Schedule 2</u>	<u>Patent</u>	
Cost of securing patent on 1/2/07		\$13,600
2007 amortization (\$13,600 X 1/8)		<u>(1,700)</u>
Cost of patent, net of amortization		<u>\$11,900</u>

<u>Schedule 3</u>	<u>Trademark</u>	
Cost of trademark on 7/1/04		\$32,000
Amortization, 7/1/04 to 7/1/07 (\$32,000 X 3/20)		<u>(4,800)</u>
Book value on 7/1/07		27,200
Cost of successful legal defense on 7/1/07		<u>8,160</u>
Book value after legal defense		35,360
Amortization, 7/1/07 to 12/31/07 (\$35,360 X 1/17 X 6/12)		<u>(1,040)</u>
Cost of trademark, net of amortization		<u>\$34,320</u>

**PROBLEM 12-3 (Continued)**

**(b) Haerhpin Corporation**  
**Expenses Resulting from Selected Intangible Assets Transactions**  
**For the Year Ended December 31, 2007**

Interest expense ( $\$43,700 \times 14\%$ )	\$ 6,118
Franchise amortization (Schedule 1)	5,870
Franchise fee ( $\$950,000 \times 5\%$ )	47,500
Patent amortization (Schedule 2)	1,700
Trademark amortization (Schedule 4)	<u>1,840</u>
Total intangible assets	<u>\$63,028</u>

**Note:** The \$65,000 of research and development costs incurred in developing the patent would have been expensed per FASB No. 2 prior to 2007.

<u>Schedule 4</u>	<u>Trademark Amortization</u>	
Amortization, 1/1/07 to 6/30/07 ( $\$32,000 \times 1/20 \times 6/12$ )		\$ 800
Amortization, 7/1/07 to 12/31/07 ( $\$35,360 \times 1/17 \times 6/12$ )		<u>1,040</u>
Total trademark amortization		<u>\$1,840</u>

**PROBLEM 12-4**

(a) **Income statement items and amounts for the year ended December 31, 2007:**

<b>Research and development expenses*</b>	<b>\$286,000</b>
<b>Amortization of patent (\$80,000 ÷ 10 years)</b>	<b>8,000</b>

**\*The research and development expenses could be listed by the components rather than in one total. The detail of the research and development expenses are as follows:**

<b>Depreciation—building</b>	<b>\$ 14,000</b>
<b>(\$280,000 ÷ 20 years)</b>	
<b>Salaries and employee benefits</b>	<b>195,000</b>
<b>Other expenses</b>	<b>77,000</b>

(b) **Balance sheet items and amounts as of December 31, 2007:**

<b>Land</b>	<b>\$ 60,000</b>
<b>Building (net of accumulated depreciation of \$14,000)</b>	<b>266,000</b>
<b>Patent (net of amortization of \$14,000)*</b>	<b>66,000</b>

**\*[( $\$80,000 \div 10$ ) X 3/4] + ( $\$80,000 \div 10$ )**

**All research and development costs should be charged to expense when incurred (see Statement of Financial Accounting Standards No. 2, “Accounting for Research and Development Costs”). Therefore, all of Florence Nightingale Tool Company’s costs related to its research and development activities for 2007 would be expensed regardless of the long-term benefits.**

**The patent was acquired for manufacturing rights rather than for use in research and development activities. Consequently, the cost of the patent can be capitalized as an intangible asset and amortized over its useful life.**

<b>PROBLEM 12-5</b>
---------------------

- (a) **Goodwill = Fair value of the division less the fair value of the identifiable assets:**

$$\$3,000,000 - \$2,650,000 = \$350,000$$

- (b) **No impairment loss is recorded, because the fair value of Mendota (\$1,850,000) is greater than carrying value of the net assets (\$1,650,000).**

- (c) **Computation of impairment:**

**Implied fair value of goodwill = Fair value of division less the carrying value of the division (adjusted for fair value changes), net of goodwill:**

Fair value of Mendota division		\$1,500,000
Carrying value of division	\$1,650,000	
Increase in fair value of PP&E	150,000	
Less: Goodwill	<u>(350,000)</u>	
		<u>(1,450,000)</u>
Implied fair value of goodwill		50,000
Carrying value of goodwill		<u>(350,000)</u>
Impairment loss		<u><u>(\$ 300,000)</u></u>

(d) Loss on Impairment .....	\$300,000	
Goodwill .....		300,000

**This loss will be reported in income as a separate line item before the subtotal "income from continuing operations."**

**PROBLEM 12-6**

(a) **Montana Matt's Golf Inc.**  
**INTANGIBLES SECTION OF BALANCE SHEET**  
**December 31, 2006**

Trade name	\$ 10,000
Copyright (net accumulated amortization of \$250) (Schedule 1)	19,750
Goodwill (Schedule 2)	<u>150,000</u>
<b>Total intangibles</b>	<b><u>\$179,750</u></b>

**Schedule 1 Computation of Value of Old Master Copyright**

Cost of copyright at date of purchase	\$20,000
Amortization of Copyright for 2006 [(\$20,000 ÷ 40) X 1/2 year]	<u>(250)</u>
<b>Cost of copyright at December 31</b>	<b><u>\$19,750</u></b>

**Schedule 2 Goodwill Measurement**

Purchase price	\$750,000
Fair value of assets	\$800,000
Fair value of liabilities	<u>(200,000)</u>
<b>Fair value of net assets</b>	<b><u>600,000</u></b>
<b>Value assigned to goodwill</b>	<b><u>\$150,000</u></b>

Amortization expense for 2006 is \$250 (see Schedule 1). There is no amortization for the goodwill or the trade name, which is considered an indefinite life intangible.

(b)

Copyright Amortization Expense.....	500	
Copyright (\$20,000 ÷ 40).....		500

There is a full year of amortization on the Copyright. There is no amortization for the goodwill or the trade name, which is considered an indefinite life intangible.

**PROBLEM 12-6 (Continued)**

**Montana Matt's Golf Inc.  
INTANGIBLES SECTION OF BALANCE SHEET  
December 31, 2007**

Trade name	\$ 10,000
Copyright (net accumulated amortization of \$750) (Schedule 1)	19,250
Goodwill	<u>150,000</u>
<b>Total intangibles</b>	<b><u>\$179,250</u></b>

**Schedule 1 Computation of Value of Old Master Copyright**

Cost of Copyright at date of purchase	\$20,000
Amortization of Copyright for 2006, 2007 [(\$20,000 ÷ 40) X 1.5 years]	<u>(750)</u>
<b>Cost of copyright at December 31</b>	<b><u>\$19,250</u></b>

(c)

Loss on Impairment .....	77,000	
Goodwill (\$150,000 – \$80,000*) .....		70,000
Trade name (\$10,000 – \$3,000).....		<u>7,000</u>

*Fair value of Old Master reporting unit	\$430,000	
Net identifiable assets (excluding goodwill) (\$500,000 – \$150,000)		<u>(350,000)</u>
<b>Implied value of goodwill</b>		<b><u>\$ 80,000</u></b>

The Goodwill is considered impaired because the fair value of the business unit (\$430,000) is less than its carrying value (\$500,000). The copyright is not considered impaired because the expected net future cash flows (\$30,000) exceed the carrying amount (\$20,000).

# TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

## **CA 12-1** (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to discuss the conceptual merits and reporting requirements of three methods of accounting for a penalty assessment. The student is required to evaluate the merits of expensing the item currently, treating it as a prior period adjustment, or capitalizing the amount of the penalty and amortizing it over future periods. This case presents a good illustration of a realistic situation in which the accountant faces the question of capitalizing or expensing an expenditure. It should be emphasized that a thorough justification for each method should be presented.

## **CA 12-2** (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to determine the proper classification of certain expenditures related to organizing a business. The student is required to deal with such issues as costs incurred for interest expense during construction, the cost of promotional advertising, and expenditures related to obtaining tenants for a shopping center. Classification of these items is complicated due to a postponement in the starting of business operations. A challenging and interesting case which should provide good background for a discussion of the theoretical support for capitalizing organization costs.

## **CA 12-3** (Time 25–30 minutes)

Purpose—to present an opportunity for the student to discuss accounting for patents from a theoretical and a practical viewpoint. The student is required to explain the “discounted value of expected net receipts” method of accounting for patents and to provide support for using cost as the generally accepted valuation method. The student is also required to comment on the theoretical basis of patent amortization. Finally the student must determine proper disclosure in the financial statements for a patent infringement suit which is in progress at the balance sheet date. This case challenges the student to present theoretical support and practical application beyond that presented in the text.

## **CA 12-4** (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to discuss the theoretical support for and practical applications of the FASB’s position on research and development costs. The student is required to define the terms “research” and “development” as used by the FASB in **Statement No. 2**, to provide theoretical support for the FASB’s position, and to apply the provisions of **Statement No. 2** to a situation presented in the case. A good case to thoroughly cover research and development costs.

## **CA 12-5** (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to examine the ethical issues related to expensing research and development costs.

# SOLUTIONS TO CONCEPTS FOR ANALYSIS

## CA 12-1

- (a) Accounting for the penalty as a charge to the current period is justified if the penalty is considered the result of an unusual event (the assessment) occurring within the period. The penalty may be an extraordinary item rather than a part of income before extraordinary items, if it is material and is unusual in nature and infrequent in occurrence. Installation of the air pollution control equipment should prevent the assessment of further penalties.
- (b) Accounting for the penalty as a correction of prior periods is justified if the penalty is considered a result of the business activities of prior periods, rather than a result of an event of the current and future periods. The penalty is assessed to correct damage which occurred as a result of production of prior periods and thus represents a cost of production which was omitted from the reported results of those prior periods. Further justification is provided by the fact that determination of the amount of the penalty was presumably made by someone other than management (the Pollution Control Agency) and could not be reasonably estimated before determination.

A prior period adjustment should be reported as an adjustment of the current year's beginning balance of retained earnings, as previously reported. If statements of prior periods are presented, they should be restated to include in income before extraordinary items the portion of the penalty allocable to each period, with appropriate adjustments to other items affected, such as retained earnings, liabilities, and earnings per share.

- (c) Accounting for the penalty as a capitalizable item to be amortized over future periods is justified if the penalty is viewed as a payment made to benefit future periods. If the penalty is not paid, Mickelson Company will not be allowed to operate in future periods; thus, the penalty is similar to a license to do business. Since the amortized expense will recur from period to period, it should be included in income before extraordinary items. Amortization should be computed in a rational and systematic manner.

## CA 12-2

**Interest on mortgage bonds.** An amount equal to the interest cost incurred in 2006 (\$720,000) is a cost which can be associated with the normal construction period and can be regarded as a normal element of the cost of the physical assets of the shopping center because the construction period would have ended at the end of the year if the tornado had not occurred. The decision to use debt capital to finance the shopping center was made with full knowledge that interest would accrue during the construction period and add to the total cost of building the center, bringing it to the point at which it would produce revenue. The future income to be generated by the shopping center must have been estimated to be more than sufficient to recover all of the expected costs of building the center and preparing it for occupancy, including interest during the construction period.

In lieu of treating interest during construction as an element of the cost of the physical assets, it can be argued that it represents an element of the general cost of bringing the business to the point of revenue production and should therefore be treated as an organization expense. This view regards interest during construction as just another of the many expenditures that are necessary to acquire and organize the physical assets of a new business but do not attach to any specific assets.

Note that **FASB Statement No. 34** requires that interest be capitalized in this situation because the building requires a period of time to get it ready for its intended use.

## CA 12-2 (Continued)

The amount of interest cost for the first nine months of 2007 is the measure of the 2007 loss resulting from the tornado. The extension of the construction period to October 2007 because of the tornado does not warrant its capitalization as construction period interest. It is in effect an uninsured loss resulting from the tornado. Had it not been for the tornado, the entire amount would have been a normal operating expense chargeable against the rental revenue that would have been earned during the first nine months of 2007.

**Cost of obtaining tenants.** Both the 2006 and 2007 costs of obtaining tenants should be expensed as incurred. The cost of obtaining tenants is a start-up cost. The accounting for start-up costs is straightforward—expense these costs as incurred. The profession recognizes that these costs are incurred with the expectation that future revenues will occur or increased efficiencies will result. However, to determine the amount and timing of future benefits is so difficult that a conservative approach—expense these costs as incurred—is required.

**Promotional advertising.** The profession has concluded that, except in limited situations, future benefits from advertising are not sufficiently defined or measurable with a degree of reliability that is required to recognize these costs as an asset. As a result, the costs should be expensed as incurred or the first time the advertising takes place. The advertising costs incurred in 2007 might be reported as a loss to indicate that an unusual event caused this additional expense.

## CA 12-3

- (a) A dollar to be received in the future is worth less than a dollar received today because of an interest or discount factor—often referred to as the time value of money. The discounted value of the expected royalty receipts can be thought of either in terms of the present value of an annuity of 1 or in terms of the sum of several present values of 1.
- (b) If the royalty receipts are expected to occur at regular intervals and the amounts are to be fairly constant, their discounted value can be calculated by multiplying the value of one such receipt by the present value of an annuity of 1 for the number of periods the receipts are expected. On the other hand, if receipts are expected to be irregular in amount or if they are to occur at irregular intervals, each expected future receipt would have to be multiplied by the present value of 1 for the number of periods of delay expected. In each case some interest rate (discount factor) per period must be assumed and used. As an example, if receipts of \$10,000 are expected each six months over the next ten years and an 8% annual interest rate is selected, the present value of the twenty \$10,000 payments is equal to \$10,000 times the present value of an annuity of 1 for 20 periods at 4%. Twice as many periods as years and half the annual interest rate of 8% are used because the payments are expected at semiannual intervals. Thus the discounted (present) value of these receipts is \$135,903 (\$10,000 X 13.5903). Because of the interest rate, this discounted value is considerably less than the total expected collection of \$200,000. Continuing the example, if instead it is expected that \$10,000 will be received six months hence, \$20,000 one year from now, and a terminal payment of \$15,000 is expected 18 months hence, the calculation is as follows:

$\$10,000 \times \text{present value of 1 at 4\% for 1 period} = \$10,000 \times .96154 = \$9,615.$

$\$20,000 \times \text{present value of 1 at 4\% for 2 periods} = \$20,000 \times .92456 = \$18,491.$

$\$15,000 \times \text{present value of 1 at 4\% for 3 periods} = \$15,000 \times .88900 = \$13,335.$

Adding the results of these three calculations yields a total of \$41,441 (rounded), considerably less than the \$45,000 total collections, again due to the discount factor.

## CA 12-3 (Continued)

- (c) The basis of valuation for patents that is generally accepted in accounting is cost. Evidently the cartons were developed and the patents obtained directly by the client corporation. Those costs related to the research and development of the cartons must be expensed in accordance with **FASB Statement No. 2**. The costs of securing the patent should be capitalized. If the infringement suit is unsuccessful, an evaluation of the value of the patent should be made to ascertain the reasonableness of carrying forward the patent cost. If the suit is successful, the attorney's fees and other costs of protecting the patent should be capitalized and amortized over its remaining useful or legal life, whichever is shorter.
- (d) Intangible assets represent rights to future benefits. The ideal measure of the value of intangible assets is the discounted present value of their future benefits. For Bearcat Company, this would include the discounted value of expected net receipts from royalties, as suggested by the financial vice-president, as well as the discounted value of the expected net receipts to be derived from Bearcat Company's production. Other valuation bases that have been suggested are current cash equivalent or fair market value.
- (e) The amortization policy is implied in the definition of intangible assets as rights to future benefits. As the benefits are received by the firm, the cost or other value should be charged to expense or to inventory to provide a proper matching of revenues and expenses. Under the discounted value approach, the periodic amortization would be the decline during the year in the present value of expected net receipts. In practice, generally straight-line amortization is used because it is simple and provides a uniform amortization approach. Another approach would be the units-of-production method.
- (f) The litigation can and should be mentioned in notes to the financial statements. Some indication of the expectations of legal counsel in respect to the outcome can properly accompany the statements. It would be inappropriate to record a contingent asset reflecting the expected damages to be recovered. Costs incurred to September 30, 2007, in connection with the litigation should be carried forward and charged to expense (or to loss if the cases are lost) as royalties (or damages) are collected from the parties against whom the litigation has been instituted; however, the conventional treatment would be to charge these costs as ordinary legal expenses. If the final outcome of the litigation is successful, the costs of prosecuting it should be capitalized. Similarly, if the client were the successful defendant in an infringement suit on these patents, the generally accepted accounting practice would be to add the costs of the legal defense to the Patents account.

Developments between the balance sheet date and the date that the financial statements are released would properly be reflected in notes to the statements as post-balance sheet (or subsequent events) disclosure.

## CA 12-4

- (a) **Research**, as defined in **Statement of Financial Accounting Standards No. 2**, is "planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service . . . or a new process or technique . . . or in bringing about a significant improvement to an existing product or process."

**Development**, as defined in **Statement of Financial Accounting Standards No. 2**, is "the translation of research findings or other knowledge into a plan or design for a new product or process or for a significant improvement to an existing product or process whether intended for sale or use."

## CA 12-4 (Continued)

- (b) The current accounting and reporting practices for research and development costs were promulgated by the Financial Accounting Standards Board (FASB) in order to reduce the number of alternatives that previously existed and to provide useful financial information about research and development costs. The FASB considered four alternative methods of accounting: (1) charge all costs to expense when incurred, (2) capitalize all costs when incurred, (3) selective capitalization, and (4) accumulate all costs in a special category until the existence of future benefits can be determined. The FASB concluded that all research and development costs should be charged to expense as incurred. (**Statement of Financial Accounting Standards No. 2** does not apply to activities that are unique to enterprises in the extractive industries. Accounting for the costs of research and development activities conducted for others under a contractual arrangement is a part of accounting for contracts in general and is beyond the scope of that statement.)

In reaching this decision, the FASB considered the three pervasive principles of expense recognition: (1) associating cause and effect, (2) systematic and rational allocation, and (3) immediate recognition. The FASB found little or no evidence of a direct causal relationship between current research and development expenditures and subsequent future benefits. The FASB also stated that the high degree of uncertainty surrounding future benefits, if any, of individual research and development projects make it doubtful that there is any useful purpose to be served by capitalizing the costs and allocating them over future periods. In view of the above, the FASB concluded that the first two principles of expense recognition do not apply, but rather that the “immediate recognition” principle of expense recognition should apply.

The high degree of uncertainty about whether research and development expenditures will provide any future benefits, the lack of objectivity in setting criteria, and the lack of usefulness of the resulting information led the FASB to reject the alternatives of capitalization, selective capitalization, and accumulation of costs in a special category.

- (c) In accordance with **Statement No. 2** of the Financial Accounting Standards Board, the following costs attributable only to research and development should be expensed as incurred:
- Design and engineering studies.
  - Prototype manufacturing costs.
  - Administrative costs related solely to research and development.
  - The cost of equipment produced solely for development of the product (\$315,000).

The remaining \$585,000 of equipment should be capitalized and shown on the statement of financial position at cost, less accumulated depreciation. The depreciation expense resulting from the current year is a part of research and development expense for the year. The market research direct costs and related administrative expenses are not research and development costs. These costs are treated as period costs and are shown as expense items in the current income statement.

## CA 12-5

- (a) Investors and creditors are concerned with corporate profits, dividends, and cash flow. Employees in Waveland Corporation’s R&D department are concerned about job security if the company begins to hire outside firms rather than have work done internally. Santo must be concerned with his performance and reputation within the company as well.
- (b) Ethical issues include long-term versus short-term profits, concern for job security, loyalty to fellow employees, and an efficient operation.
- (c) Santo should do what is best for Waveland Corporation in the long run. He should choose to have the project done where the work will be done well and at the lowest cost. Whether expenses will appear in the income statement immediately or will be capitalized and allocated over a period of years should NOT be the driving factor in making the decision. He should be able to explain his decision to higher-ups and illustrate the different required accounting treatments. He also should give some thought to the impact on employee morale if he does not use the company’s own R&D department.

## FINANCIAL REPORTING PROBLEM

- (a) P&G reports Goodwill of \$19,610 million for 2004. P&G reports (net of amortization) Trademarks of \$3,633 million, Patents of \$268 million, and Other Intangibles of \$389 million in 2004.
- (b) P&G spent \$1,802 million on research and development in 2004 and \$1,665 million in 2003.

In 2004, P&G spent 3.51% ( $\$1,802/\$51,407$ ) of its sales on research and development costs. As a percent of net income, it spent 27.8% ( $\$1,802/\$6,481$ ) of its net income on research and development. For 2003, the figures were 3.84% ( $\$1,665/\$43,377$ ) of sales and 32.1% ( $\$1,665/\$5,186$ ) of net income.

## FINANCIAL STATEMENT ANALYSIS CASE

### MERCK AND JOHNSON & JOHNSON

- (a) The primary intangible assets of a healthcare products company would probably be patents, goodwill and trademarks. The nature of each of these is quite different; thus, an investor would normally want to know what the composition of intangible assets is if it is material.
- (b) Many corporate executives complain that investors are too concerned about the short-term and don't reward good long-term planning. As a consequence, they feel that the requirement that research and development expenditures be expensed immediately penalizes those executives who do invest in the future. As a consequence, when net income does not look good, it is always tempting to cut research and development expenditures, since this will cause a direct increase in current year reported profits. Of course, it will also diminish the company's long-term prospects.
- (c) If a company reports goodwill on its balance sheet, it can only have resulted from one thing—the company must have purchased another company. This is because companies are not allowed to record internally created goodwill. They can only report purchased goodwill. Ironically, if you want to report a large amount of goodwill, all you have to do is overpay when you purchase another company—the more you overpay, the more goodwill you will report. Obviously, reporting a lot of goodwill is not such a good thing.

## COMPARATIVE ANALYSIS CASE

- (a) (1) **Coca-Cola reports: Trademarks, Goodwill and Other Intangible Assets . . . \$3,836M. PepsiCo reports: Intangible Assets, net . . . \$5,440M.**
- (2) **Coca-Cola: Intangible assets are 12.2% of total assets. PepsiCo: Intangible assets are 19.4% of total assets.**
- (3) **At Coca-Cola, intangible assets decreased \$153M from \$3,989M to \$3,836M. At PepsiCo, intangibles increased \$57M from \$5,383M to \$5,440M.**
- (b) (1) **Coca-Cola amortizes intangible assets that are deemed to have definite lives over their useful life. PepsiCo amortizes amortizable intangible assets “on a straight-line basis over their estimated useful lives.”**
- (2) **Coca-Cola had accumulated amortization of \$128M and \$98M on December 31, 2004 and 2003, respectively. PepsiCo had accumulated amortization of \$635M and \$479M at year-end 2004 and 2003, respectively.**
- (3) **Coca-Cola identified the composition of its intangible assets as follows:**

<b>Trademarks</b>	<b>\$2,037M</b>
<b>Goodwill</b>	<b>1,097</b>
<b>Other intangible assets</b>	<b><u>702</u></b>
	<b><u>\$3,836M</u></b>

**PepsiCo identified its intangible assets as follows:**

<b>Amortizable intangible assets</b>	<b>\$ 598M</b>
<b>Goodwill</b>	<b>3,909</b>
<b>Other nonamortizable intangible assets</b>	<b><u>933</u></b>
	<b><u>\$5,440M</u></b>

## RESEARCH CASE

- (a) It would appear, that under French GAAP, goodwill is accounted for similar to the way it was under U.S. GAAP before *FASB No. 142*. That is, goodwill was recorded at acquisition of another company and amortized to expense gradually. Unlike the new rules, prior U.S. and current French GAAP (did) do not have periodic impairment tests. The other adjustment mentioned in the story concerns the accounting for Vivendi debt. While not explained in the article, a review of Vivendi's 20-F filing with the SEC indicates that this adjustment relates to adoption of *FASB No. 133* (Accounting for Derivatives). Apparently, Vivendi is involved in a number of derivative transactions, which are off-balance sheet transactions under French GAAP.
- (b) According to some analysts, the goodwill write-off represents a non-cash charge that the market had already mostly priced into Vivendi's share price. The write-off represents 30% of Vivendi's overall goodwill but Vivendi's shares have declined over 50% since the end of 2000. In contrast, others believe that goodwill write-offs are very informative because they amount to an acknowledgement by management that the assets acquired in a business combination will not generate as much cash in the future as previously predicted.
- (c) Media companies use a profitability measure, Ebitda, which stands for earnings before interest, taxes, depreciation, and *amortization*. This is one of the pro-forma measures discussed elsewhere in the text (see, e.g. Chapter 4). Because Ebitda adds back amortization expense to bottom line net income, and because under U.S. GAAP goodwill is no longer amortized, the change to U.S. GAAP will reduce the difference between bottom line income and Ebitda. However, it is likely that companies will treat goodwill write-offs within pro-forma measures, such as Ebitda, similar to the way they treat other one-time items—they will add them back to make pro-forma income measures higher.

**Note to Instructors:** Instructors may want to remind students that pro-forma measures such as Ebitda, are not GAAP. Such measures represent a form of voluntary disclosure. Except for SEC rules requiring companies to reconcile GAAP and pro-forma measures, when reported, there are no accounting standards for pro-forma measures.

## INTERNATIONAL REPORTING CASE

(a) **ROE = Net Income ÷ Stockholders' Equity**

**Bayer—603 ÷ 12,268 = 4.92%**

**Glaxo Smithkline—4,302 ÷ 10,091 = 42.63%**

**Merck—5,813 ÷ 17,288 = 33.6%**

**Based on ROE, Merck exhibits the strongest profitability of these three companies at 47%. Bayer reports the lowest ROE at 4.9%. Examining the trend for each company and comparing it to other companies in the same country would also be useful in comparing these companies' profitabilities.**

(b) **Glaxo Smithkline indicates that goodwill may be amortized over a range of periods—up to 20 years. Goodwill amortization is not allowed under U.S. GAAP and IFRS. Thus, even if all companies use the maximum amortization period, it would be difficult to compare their amortization expenses and income measures.**

**Unless U.K. companies adopt a no amortization policy, a lack of comparability exists.**

(c) **Goodwill adjustments:**

Related information	Bayer (DM millions)	Glaxo Smithkline (Pounds millions)	Merck (\$ millions)
(a) Amortization Expense	0	12	0
(b) Net Income	603	4,302	5,813
<b>Adjusted Income (a + b)</b>	<b>603</b>	<b>4,312</b>	<b>5,813</b>
(c) Accumulated Goodwill Amortization	0	84	0
(d) Stockholders' Equity	12,268	10,091	17,288
<b>Adjusted SE (c + d)</b>	<b>12,268</b>	<b>10,175</b>	<b>17,288</b>
ROE (from ref. a)	4.92%	42.7%	33.6%
<b>Adjusted ROE (a + b) ÷ (c + d)</b>	<b>4.92%</b>	<b>42.4%</b>	<b>33.6%</b>

## **INTERNATIONAL REPORTING CASE (Continued)**

**Making these adjustments results in a lower ROE for Glaxo Smithkline. This is due to the relatively large goodwill asset that has been written off by Glaxo. Bayer's and Merck's ROE remains the same since they do not amortize goodwill per FASB and IFR Standards. Some analysts believe that goodwill should not be written off unless it is impaired. Per Statement of Financial Accounting Standards No. 141 and No. 142, goodwill is no longer amortized and is written off only if it is impaired. If written off, this understates assets and equity, resulting in an overstatement of profitability measures such as ROE and return on assets. This denominator effect can be more pronounced than the effects of amortization expense on income in the numerator of these ratios.**

- (d) If some companies capitalize development expenses, this will result in higher reported assets and income (because R&D expense will be understated relative to U.S. GAAP). Thus any ratios relying on income and reported assets (ROA, ROE, Asset Turnover, etc.) should be adjusted for these effects. As long as the development costs and the development assets are disclosed, adjustments can be made to Bayer's reports to make them comparable to Merck's, similar to the adjustments made in part (c).**

## PROFESSIONAL RESEARCH: ACCOUNTING AND FINANCIAL REPORTING

Search Strings: goodwill, “other intangible assets,” “goodwill and other intangible assets,” “goodwill impairment testing”

- (a) FAS No. 142: Goodwill and Other Intangible Assets; Issued June 2001. This Statement supersedes APB Opinion No. 17, Intangible Assets. Perhaps the senior staff took Intermediate Accounting before 2001.
- (b) FAS 142, Glossary of Terms: Goodwill: The excess of the cost of an acquired entity over the net of the amounts assigned to assets acquired and liabilities assumed. The amount recognized as goodwill includes acquired intangible assets that do not meet the criteria in FASB Statement No. 141, Business Combinations, for recognition as an asset apart from goodwill.
- (c) Accounting for Goodwill (FAS 142, Par. 18, 19)
  - 18. Goodwill shall not be amortized. Goodwill shall be tested for impairment at a level of reporting referred to as a reporting unit. (Paragraphs 30–36 provide guidance on determining reporting units.) Impairment is the condition that exists when the carrying amount of goodwill exceeds its implied fair value. The two-step impairment test discussed in paragraphs 19–22 shall be used to identify potential goodwill impairment and measure the amount of a goodwill impairment loss to be recognized (if any).
  - 19. The first step of the goodwill impairment test, used to identify potential impairment, compares the fair value of a reporting unit with its carrying amount, including goodwill. The guidance in paragraphs 23–25 shall be used to determine the fair value of a reporting unit. If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not impaired, thus the second step of the impairment test is unnecessary. If the carrying amount of a reporting unit exceeds its fair value, the second step of the goodwill impairment test shall be performed to measure the amount of impairment loss, if any.
- (d) Paragraph 19 (see part (b)) explains impairment procedures for goodwill. FAS 142, Par. 37. Explains further that:

All goodwill recognized by a public or nonpublic subsidiary (subsidiary goodwill) in its separate financial statements that are prepared in accordance with generally accepted accounting principles shall be accounted for in accordance with this Statement. Subsidiary goodwill shall be tested for impairment at the subsidiary level using the subsidiary’s reporting units. If a goodwill impairment loss is recognized at the subsidiary level, goodwill of the reporting unit or units (at the higher consolidated level) in which the subsidiary’s reporting unit with impaired goodwill resides must be tested for impairment if the event that gave rise to the loss at the subsidiary level would more likely than not reduce the fair value of the reporting unit (at the higher consolidated level) below its carrying amount (refer to paragraph 28(g)). Only if goodwill of that higher-level reporting unit is impaired would a goodwill impairment loss be recognized at the consolidated level.

# PROFESSIONAL SIMULATION

## Journal Entries

January 2, 2007

Patents.....	80,000	
Cash.....		80,000

July 1, 2007

Patents.....	11,400	
Cash.....		11,400

December 31, 2007

Patent Amortization Expense .....	8,600	
Patents .....		8,600

Computation of patent expense:

\$80,000 X 12/120 =	\$8,000
\$11,400 X 6/114 =	<u>600</u>
Total	<u>\$8,600</u>

## Measurement

Computation of impairment loss:

Cost	\$42,000
Less: Accumulated amortization	<u>7,875*</u>
Book value	<u>\$34,125</u>

\*\$42,000 X 18/96 = \$7,875

## PROFESSIONAL SIMULATION (Continued)

The book value of \$34,125 is greater than net cash flows of \$25,000. Therefore the franchise is impaired. The impairment loss is computed as follows:

Book value	\$34,125
Fair value	<u>13,000</u>
Loss on impairment	<u>\$21,125</u>

### Financial Statements

#### Intangible assets as of December 31, 2006

Franchise	<u>\$39,375*</u>
*Cost	\$42,000
Less: Accumulated amortization	<u>2,625**</u>
Total	<u>\$39,375</u>

\*\*\$42,000 X 6/96 = \$2,625

Note that the net loss and all organization costs are expensed in 2006.

#### Intangible assets as of December 31, 2007:

Franchise	\$ 13,000	
Patents	82,800	(\$80,000 + \$11,400 – \$8,600)
Goodwill	<u>180,000</u>	
Total intangible assets	<u>\$275,800</u>	

Note that all the costs to develop the secret formula and the research and development costs are expensed as incurred.