CHAPTER 12

Intangible Assets

ANSWERS TO QUESTIONS

1. The two main characteristics of intangible assets are:
(a) they lack physical substance.
(b) they are not a financial instrument.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

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.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

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.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

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 subject-tivity 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.

LO: 2, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

5. Companies cannot capitalize self-developed, self-maintained, or self-created goodwill. These expenditures would most likely be reported as selling expenses.

LO: 3, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

6. Factors to be considered in determining useful life are:
(a) The expected use of the asset by the entity.
(b) The expected useful life of another asset or a group of assets to which the useful life of the intangible asset may relate.
(c) Any legal, regulatory, or contractual provisions that may limit useful life.
(d) Any legal, regulatory or contractual provisions that enable renewal or extension of the asset's legal or contractual life without substantial cost.
(e) The effects of obsolescence, demand, competition, and other economic factors.
(f) The level of maintenance expenditure required to obtain the expected future cash flows from the asset.

LO: 4, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

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.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

8. This trademark is an indefinite life intangible and, therefore, should not be amortized.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, AICPA PC: Communication

9. The $190,000 should be expensed as research and development expense in 2020. The $91,000 is expensed as selling and promotion expense in 2020. 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.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

10.

Amortization Expense	35,000	
Patents (or Accumulated Patent Amortization)		35,000

Straight-line amortization is used because the pattern of use cannot be reliably determined.

LO: 2, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

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.

LO: 2, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

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.

A bargain purchase (or negative goodwill) occurs 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.

LO: 3, Bloom: K, Difficulty: Moderate, Time: 5-10, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Measurement, Reporting, AICPA PC: Communication

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.

LO: 3, 18, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

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 fair 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.

LO: 2, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

16. Under U.S. GAAP, impairment losses on assets held for use may not be restored.

LO: 4, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

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.

LO: 4, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

18. The amount of goodwill impaired is $40,000, computed as follows:

Carrying value of net assets	$1,490,000
Fair value of reporting unit	(1,450,000)
Impaired goodwill..	$ 40,000

LO: 4, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, None

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.

LO: 5, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

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.

LO: 5, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

21. (a) Expense as R&D.
(b) Expense as R&D.
(c) Capitalize as patent and/or license and amortize.
Also, see Illustration 12-14 (page 22).

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

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.

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

23. $585,000 ($400,000 + $60,000 + $125,000).

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

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.

LO: 4, 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

25. The total life, per revised facts, is 40 years (10 + 30). There are 30 (40 – 10) remaining years for amortization purposes. Original amortization: $\frac{\$540{,}000}{30}$ = $18,000 per year; $18,000 X 10 years expired = $180,000 accumulated amortization.

$540,000	original cost
–180,000	accumulated amortization
$360,000	remaining cost to amortize

$360,000 ÷ 30 years = $12,000 amortization for 2020 and years thereafter.

LO: 2, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 12.1

Patents	**54,000**	
Cash		**54,000**
Amortization Expense	**5,400**	
Patents ($54,000 X 1/10 = $5,400)		**5,400**

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.2

Patents	**24,000**	
Cash		**24,000**
Amortization Expense	**8,400**	
Patents [($43,200 + $24,000) X 1/8 = $8,400]		**8,400**

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.3

Trade Names	**68,000**	
Cash		**68,000**
Amortization Expense	**8,500**	
Trade Names ($68,000 X 1/8 = $8,500)		**8,500**

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.4

Franchises	**120,000**	
Cash		**120,000**
Amortization Expense	**11,250**	
Franchises ($120,000 X 1/8 X 9/12 = $11,250)		**11,250**

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.5

Purchase price		$700,000
Fair value of assets	$800,000	
Fair value of liabilities	200,000	
Fair value of net assets		600,000
Value assigned to goodwill		$100,000

LO: 3, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.6

Loss on Impairment	190,000	
Patents ($300,000 – $110,000)		190,000

Note: An impairment has occurred because expected net future cash flows ($210,000) are less than the carrying amount ($300,000). The loss is measured as the difference between the carrying amount and fair value ($110,000).

LO: 4, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.7

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.

LO: 4, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Reflecting Thinking, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

BRIEF EXERCISE 12.8

Loss on Impairment ($800,000 – $750,000)	50,000	
Goodwill		50,000

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 net assets of $800,000 and the fair value of $750,000.

LO: 4, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.9

	Carrying Amount	Life in Months	Amortization Per Month	Months Amortization
Patent (1/1/20)	$288,000	96	$3,000	12
Legal costs (12/1/20)	85,000	85	$1,000	1
	$373,000			

Carrying amount	$373,000
Less: Amortization of patent (12 X $3,000)...........	(36,000)
Legal costs amortization (1 X $1,000)	(1,000)
Carrying amount 12/31/20.......................................	$336,000

LO: 1, 2, 5, Bloom: AP, Difficulty: Simple, Time: 5-7, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.10

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

Copyright No. 2 for $24,000 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, 2020balance sheet at its cost of $24,000.

LO: 1, 2, 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

BRIEF EXERCISE 12.11

Organization Expense..	60,000	
Cash		60,000

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.12

Research and Development Expense	**430,000**	
Cash		**430,000**

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

BRIEF EXERCISE 12.13

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

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

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.

LO: 1, 2, Bloom: AN, Difficulty: Simple, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.2 (10–15 minutes)

The following items would be classified as intangible assets:

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 on the balance sheet.

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

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 operating expenses on the income statement.

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

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

LO: 1, 2, Bloom: AN, Difficulty: Simple, Time: 10-15, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.3 (10–15 minutes)

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

(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 on the balance sheet.

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 of the balance sheet. 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, on the balance sheet 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.

LO: 1, 2, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.4 (15–20 minutes)

1. Alatorre should report the patent at $600,000 ($1,000,000 cost net of $400,000 accumulated amortization) on the balance sheet. The computation of accumulated amortization is as follows.

Amortization for 2018 and 2019 ($1,000,000/10) X 2	$200,000
2020 amortization: ($1,000,000 – $200,000) ÷ (6 – 2)	200,000
Accumulated amortization, 12/31/20	$400,000

2. 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 2028, it should be amortized over 10 years. The amount of amortization on the franchise for the year ended December 31, 2020, is $40,000: ($400,000/10).

3. These costs should be expensed as incurred. Therefore $275,000 of organization expense is reported in income for 2020.

4. 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.

LO: 1, 2, 5, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.5 (15–20 minutes)

Research and Development Expense	940,000	
Patents	75,000	
Rent Expense [(5 ÷ 7) X $91,000]	65,000	
Prepaid Rent [(2 ÷ 7) X $91,000]	26,000	
Advertising Expense	207,000	
Retained Earnings	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		1,388,000

*84,000 ÷ 240 months = $350; $350 X 3 = $1,050; $84,000 – $1,050 = $82,950

Amortization Expense [($75,000 ÷ 10) X 1/2]	3,750	
Patents (or Accumulated Amortization)		3,750

LO: 1, 2, 5, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.6 (15–20 minutes)

Patents	350,000	
Goodwill	360,000	
Franchise	450,000	
Copyright	156,000	
Research and Development Expense	215,000	
Intangible Assets		1,531,000

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, 2020

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

LO: 1, 5, Bloom: AP, Difficulty: Simple, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.7 (10–15 minutes)

(a) 2019 amortization: $16,000 ÷ 10 = $1,600.
12/31/19 book value: $16,000 – $1,600 = $14,400.

2020 amortization: ($14,400 + $7,800) ÷ 9 = $2,467.
12/31/20 book value: ($14,400 + $7,800 – $2,467) = $19,733.

(b) 2020 amortization: ($14,400 + $7,800) ÷ 4 = $5,550.
12/31/20 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.

2021 amortization (after recording impairment loss):
$15,000 ÷ 8 = $1,875.
12/31/21 book value: $15,000 – $1,875 = $13,125.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 10-15, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.8 (15–20 minutes)

(a)

CARTER COMPANY
Intangibles Section of Balance Sheet
December 31, 2020

Patent from Ford Company, net of accumulated amortization of $560,000 (Schedule 1)	$1,440,000
Franchise from Polo Company, net of accumulated amortization of $48,000 (Schedule 2)	432,000
Total intangibles	$1,872,000

Schedule 1 Computation of Patent from Ford Company

Cost of patent at date of purchase	$2,000,000
Amortization of patent for 2019 ($2,000,000 ÷ 10 years)	(200,000)
	1,800,000
Amortization of patent for 2020 ($1,800,000 ÷ 5 years)	(360,000)
Patent balance	$1,440,000

Schedule 2 Computation of Franchise from Polo Company

Cost of franchise at date of purchase	$ 480,000
Amortization of franchise for 2020 ($480,000 ÷ 10)	(48,000)
Franchise balance	$ 432,000

(b)

CARTER COMPANY
Income Statement Effect
For the year ended December 31, 2020

Patent from Ford Company:		
Amortization of patent for 2020 ($1,800,000 ÷ 5 years)		$360,000
Franchise from Polo Company:		
Amortization of franchise for 2020 ($480,000 ÷ 10)	$ 48,000	
Payment to Polo Company ($2,500,000 X 5%)	125,000	173,000
Research and development costs		433,000
Total charged against income		$966,000

LO: 1, 2, 5, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.9 (20–25 minutes)

(a)	2016	Research and Development Expense	170,000	
		Cash		170,000
		Patents	18,000	
		Cash		18,000
		Amortization Expense	450	
		Patents [($18,000 ÷ 10) X 3/12]		450
	2017	Amortization Expense	1,800	
		Patents ($18,000 ÷ 10)		1,800
(b)	2018	Patents	9,480	
		Cash		9,480
		Amortization Expense	1,940	
		Patents ($750* + $1,190**)		1,940
		*Jan. 1–June 1: ($18,000 ÷ 10) X 5/12 = $750		
		**June 1–Dec. 31: ($18,000 – $450 – $1,800 – $750 + $9,480) = $24,480; ($24,480 ÷ 12) X 7/12 = $1,190		
	2019	Amortization Expense	2,040	
		Patents ($24,480 ÷ 12)		2,040
(c)	2020 and 2021			
		Amortization Expense	10,625	
		Patents ($21,250 ÷ 2)		10,625
		($24,480 – $1,190 – $2,040) = $21,250		

LO: 1, 2, 5, Bloom: AP, Difficulty: Moderate, Time: 20-25, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.10 (15–20 minutes)

(a) Patent A

Life in years	**17**
Life in months (12 X 17)	**204**
Amortization per month ($30,600 ÷ 204)	**$150**
Number of months amortized to date	

Year	Month
2016	10
2017	12
2018	12
2019	12
	46

Carrying amount 12/31/19 $23,700: ($30,600 – [46 X $150])

Patent B

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

Year	Month
2017	6
2018	12
2019	12
	30

Carrying amount 12/31/19 $11,250: ($15,000 – [$125 X 30])

Patent C

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

Year	Month
2018	4
2019	12
	16

Carrying amount 12/31/19 $9,600: ($14,400 – [$300 X 16])

EXERCISE 12.10 (Continued)

At December 31, 2019

Patent A	$23,700
Patent B	11,250
Patent C	9,600
Total	$44,550

(b) Analysis of 2020 transactions

1. The $245,700 incurred for research and development should be expensed.

2. The book value of Patent B is $9,750 ($11,250-$1,500) 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	$9,750
Less: Present value of future cash flows ($2,000 X 2.57710)	5,154
Loss recognized	$ 4,596

Patent B carrying amount (12/31/20) $5,154

At December 31, 2020

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	34,560	($36,480 – $1,920*)
Total	$67,614	

<u>Patent D amortization</u>

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

$320 X 6 = $1,920

LO: 1, 2, 4, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.11 (20–25 minutes)

Net assets of Zweifel as reported ($575,000 – $350,000)		$225,000
Adjustments to fair value		
Increase in land value	30,000	
Decrease in equipment value	(5,000)	25,000
Net assets of Zweifel at fair value		250,000
Selling price		350,000
Amount of goodwill to be recorded		$100,000

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

LO: 3, Bloom: AP, Difficulty: Moderate, Time: 20-25, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.12 (10–15 minutes)

(a)

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

*$350,000 – [$235,000 + $20,000 + $25,000 + $5,000]

Note that the building and equipment would be recorded at the 7/1/20cost to Brigham; accumulated depreciation accounts would not be recorded.

EXERCISE 12.12 (Continued)

(b)	Amortization Expense	1,500	
	Trademarks ([$15,000 – $3,000] X 1/4 X 6/12).....		1,500

LO: 1, 2, 3, Bloom: AP, Difficulty: Simple, Time: 10-15, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.13 (15–20 minutes)

(a)	December 31, 2020		
	Loss on Impairment..	1,100,000*	
	Copyrights...		1,100,000

*Carrying amount	$4,300,000
Fair value	3,200,000
Loss on impairment	$1,100,000

Note: Asset fails recoverability test because the expected net cash flows of $4,000,000 are less than the carrying value of $4,300,000.

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

*New carrying amount	$3,200,000
Useful life	÷ 10 years
Amortization per year	$ 320,000

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

LO: 4, Bloom: AP, Difficulty: Simple, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

EXERCISE 12.14 (15–20 minutes)

(a)	December 31, 2020		
	Loss on Impairment..............................	15,000,000*	
	Goodwill		15,000,000
	*$350,000,000 – $335,000,000,		

The fair value of the reporting unit ($335 million) is below its carrying value ($350 million). Therefore, an impairment has occurred.

EXERCISE 12.14 (Continued)

(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 FASB ASC 350-30-35.

Note to instructor: It is important that before conducting the goodwill impairment test that all other long-lived assets are evaluated and adjusted for any impairments.

LO: 3, 4, Bloom: AP, Difficulty: Simple, Time: 15-20, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.15 (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	1,000
Total organization costs	$23,000

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

(b)

Organization Expense	23,000	
Cash (Payables)		23,000

LO: 5, Bloom: AP, Difficulty: Simple, Time: 10-15, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.16 (15–20 minutes)

(a) In accordance with GAAP, 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.

EXERCISE 12.16 (Continued)

(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)		
	Amortization Expense	3,200	
	Patents..		3,200
	[To record one year's amortization expense ($16,000 ÷ 5 = $3,200)]		
(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.

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 =	5,900
Amortization expense for 2018	$7,500

(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.

LO: 2, 5, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

EXERCISE 12.17 (10–15 minutes)

Depreciation of equipment acquired that will have alternate uses in future research and development projects over the next 5 years ($280,000 ÷ 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	50,000
Total to be expensed for research and development	$393,000*

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

LO: 5, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

SOLUTIONS TO PROBLEMS

PROBLEM 12.1

Franchises	48,000	
Prepaid Rent	24,000	
Retained Earnings (Net loss)	16,000	
Patents ($84,000 + $12,650)	96,650	
Research and Development Expense ($75,000 + $160,000)	235,000	
Goodwill	278,400	
Intangible Assets		698,050
Amortization Expense ($48,000 ÷ 8)	6,000	
Retained Earnings ($48,000 ÷ 8 X 6/12)	3,000	
Franchises		9,000
Rent Expense ($24,000 ÷ 2)	12,000	
Retained Earnings ($24,000 ÷ 2 X 3/12)	3,000	
Prepaid Rent		15,000
Amortization Expense	9,170	
Patents ($84,000 ÷ 10) + ($12,650 X 7/115)		9,170

Balances at 12/31/21

Prepaid Rent ($24,000 – $15,000)	$ 9,000
Franchises ($48,000 – 9,000)	39,000
Patents ($96,650 – 9,170)	87,480
Goodwill	278,400

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

LO: 1, 2, 3, 4, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

PROBLEM 12.2

(a)

Costs to obtain patent Jan. 2014		$59,500
2014 amortization ($59,500 ÷ 17)....................		(3,500)
Carrying value, 12/31/14		$56,000

All costs incurred prior to January 2014 are related to research and development activities and were expensed as incurred in accordance with GAAP.

(b)

1/1/15 carrying value of patent		$56,000
2015 amortization ($59,500 ÷ 17)....................	$3,500	
2016 amortization..	3,500	(7,000)
		49,000
Legal fees to defend patent 12/16		42,000
Carrying value, 12/31/16		91,000
2017 amortization ($91,000 ÷ 14)....................	6,500	
2018 amortization..	6,500	(13,000)
Carrying value, 12/31/18		$78,000

The costs incurred in 2015 and 2017 are related to research and development activities and are expensed as incurred.

(c)

1/1/19 carrying value.....................................		$78,000
2019 amortization ($78,000 ÷ 5)......................	$15,600	
2020 amortization..	15,600	
2021 amortization..	15,600	(46,800)
Carrying value, 12/31/21		$31,200

The legal costs in 2021 were expensed because the suit was unsuccessful.

LO: 1, 2, 4, 5, Bloom: AP, Difficulty: Moderate, Time: 20-30, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

PROBLEM 12.3

(a)

SANDRO CORPORATION
Intangible Assets
December 31, 2020

Franchise, net of accumulated amortization of $5,870 (Schedule 1)	$ 52,830
Patent, net of accumulated amortization of $2,200 (Schedule 2)	15,400
Trademark, net of accumulated amortization of $6,600 (Schedule 3)	39,600
Total intangible assets	$107,830

Schedule 1 **Franchise**

Cost of franchise on 1/1/20 ($15,000 + $43,700)	$ 58,700
2020 amortization ($58,700 X 1/10)	(5,870)
Cost of franchise, net of amortization	$ 52,830

Schedule 2 **Patent**

Cost of securing patent on 1/2/20	$ 17,600
2020 amortization ($17,600 X 1/8)	(2,200)
Cost of patent, net of amortization	$ 15,400

Schedule 3 **Trademark**

Cost of trademark on 7/1/17	$ 36,000
Amortization, 7/1/17 to 7/1/20 ($36,000 X 3/20)	(5,400)
Book value on 7/1/20	30,600
Cost of successful legal defense on 7/1/20	10,200
Book value after legal defense	40,800
Amortization, 7/1/20 to 12/31/20 ($40,800 X 1/17 X 6/12)	(1,200)
Cost of trademark, net of amortization	$ 39,600

PROBLEM 12.3 (Continued)

(b)

SANDRO CORPORATION
Expenses Resulting from Selected Intangible Assets Transactions
For the Year Ended December 31, 2020

Interest expense ($43,700 X 14%)	$ 6,118
Franchise amortization (Schedule 1)	5,870
Franchise fee ($900,000 X 5%)	45,000
Patent amortization (Schedule 2)	2,200
Trademark amortization (Schedule 4)	2,100
Total intangible assets	$61,288

Note: The $65,000 of research and development costs incurred in developing the patent would have been expensed prior to 2020.

Schedule 4 — Trademark Amortization	
Amortization, 1/1/20 to 6/30/20 ($36,000 X 1/20 X 6/12)	$ 900
Amortization, 7/1/20 to 12/31/20 ($40,800 X 1/17 X 6/12)	1,200
Total trademark amortization	$ 2,100

LO: 1, 2, Bloom: AP, Difficulty: Moderate, Time: 20-30, AACSB: Analytic, AICPA BB: None, AICPA FC: Reporting, AICPA PC: None

PROBLEM 12.4

(a) Goodwill = Excess of the cost of the division over the fair value of the identifiable assets:

$3,000,000 – $2,750,000 = $250,000

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

(c) Computation of impairment:

Impaired goodwill = Fair value of division less the carrying value of the division (adjusted for fair value changes), including goodwill:

Fair value of Conchita division	$1,600,000	
Carrying value of division	(1,650,000)	
Impairment loss		($ 50,000)

(d)

Loss on Impairment......................................	50,000	
Goodwill...		50,000

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

LO: 3, 4, 5, Bloom: AP, Complex, Time: 25-30, AACSB: Analytic, AICPA BB: None, AICPA FC: Measurement, Reporting, AICPA PC: None

PROBLEM 12.5

(a)

MONTANA MATT'S GOLF INC.
Intangibles Section of Balance Sheet
December 31, 2019

Trade name..	$ 10,000
Copyright (net accumulated amortization of $300)	
(Schedule 1)..	23,700
Goodwill (Schedule 2)..	170,000
Total intangibles..	$203,700

Schedule 1 Computation of Value of Old Master Copyright

Cost of copyright at date of purchase	$ 24,000
Amortization of copyright for 2019 [($24,000 ÷ 40) X 1/2 year]	(300)
Carrying value of copyright at December 31 .	$ 23,700

Schedule 2 Goodwill Measurement

Purchase price		$770,000
Fair value of assets...	$800,000	
Fair value of liabilities..	(200,000)	
Fair value of net assets		(600,000)
Value assigned to goodwill		$170,000

Amortization expense for 2019 is $300 (see Schedule 1). There is no amortization for the goodwill or the trade name, both of which are considered indefinite life intangible assets.

(b) Amortization Expense.......................................	600	
Copyrights ($24,000 ÷ 40)		600

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

PROBLEM 12.5 (Continued)

MONTANA MATT'S GOLF INC.
Intangibles Section of Balance Sheet
December 31, 2020

Trade name	$ 10,000
Copyright (net of accumulated amortization, $900) (Schedule 1)	23,100
Goodwill	170,000
Total intangibles	$203,100

Schedule 1 Computation of Value of Old Master Copyright	
Cost of Copyright at date of purchase	$ 24,000
Amortization of Copyright for 2019, 2020 [($24,000 ÷ 40) X 1.5 years]	(900)
Balance of copyright at December 31	$ 23,100

(c)

Loss on Impairment	87,000	
Goodwill		80,000
Trade names ($10,000 – $3,000)		7,000

*Fair value of Old Master reporting unit	$420,000
Net identifiable assets (including goodwill)	(500,000)
Goodwill impairment loss	$ 80,000

The Goodwill is considered impaired because the fair value of the business unit ($420,000) 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 [$22,500 ($23,100 − $600)].

LO: 1, 2, 3, 4, Bloom: AP, Difficulty: Moderate, Time: 30-35, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

PROBLEM 12.6

(a) Income statement items and amounts for the year ended December 31, 2020:

Research and development expenses*	**$288,000**
Amortization of patent ($88,000 ÷ 10 years)	**8,800**

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

Depreciation—building ($320,000 ÷ 20 years)	**$ 16,000**
Salaries and employee benefits	**195,000**
Other expenses	**77,000**

(b) Balance sheet items and amounts as of December 31, 2020:

Land	**$ 60,000**
Building (net of accumulated depreciation of $16,000)	**304,000**
Patent (net of amortization of $15,400)*	**72,600**

***([$88,000 ÷ 10] X 3/4) + ($88,000 ÷ 10)**

All research and development costs should be charged to expense when incurred. Therefore, all of Wright Tool Company's costs related to its research and development activities for 2020 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.

LO: 2, 4, 5, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Analytic, Communication, AICPA BB: None, AICPA FC: Reporting, AICPA PC: Communication

