

Chapter 9 Questions

Multiple Choice

1. The calculation of depreciation using the declining-balance method
 - a. ignores salvage value in determining the amount to which a constant rate is applied.
 - b. multiplies a constant percentage times the previous year's depreciation expense.
 - c. yields an increasing depreciation expense each period.
 - d. multiplies a declining percentage times a constant book value.
2. Land is generally shown on the balance sheet under
 - a. Intangibles.
 - b. Investments.
 - c. Property, Plant, and Equipment.
 - d. Current Assets.
3. Given the following account balances at year end, compute the total intangible assets on the balance sheet of Janssen Enterprises.

Cash	\$1,500,000
Accounts Receivable	1,000,000
Trademarks	1,200,000
Goodwill	2,500,000
Research & Development Costs	2,000,000

- a. \$9,700,000.
 - b. \$5,700,000.
 - c. \$3,700,000.
 - d. \$7,700,000.
4. A plant asset with a cost of \$900,000 and accumulated depreciation of \$800,000 is sold for \$80,000. What is the amount of the gain or loss on disposal of the plant asset?
 - a. \$20,000 loss.
 - b. \$80,000 loss.
 - c. \$80,000 gain.
 - d. \$20,000 gain.
5. Equipment with a cost of \$450,000 has an estimated salvage value of \$30,000 and an estimated life of 4 years or 10,000 hours. It is to be depreciated by the ***units-of-activity method***. What is the amount of depreciation for the first full year, during which the equipment was used 2,700 hours?
 - a. \$112,500.
 - b. \$105,000.
 - c. \$113,400.
 - d. \$108,750.

6. Equipment with a cost of \$450,000 has an estimated salvage value of \$30,000 and an estimated life of 4 years or 10,000 hours. It is to be depreciated by the **straight-line method**. What is the amount of depreciation for the first full year, during which the equipment was used 2,700 hours?
- \$112,500.
 - \$105,000.
 - \$113,400.
 - \$108,750.
7. Equipment with a cost of \$450,000 has an estimated salvage value of \$30,000 and an estimated life of 4 years or 10,000 hours. It is to be depreciated by the **declining balance method (double)**. What is the amount of depreciation for the first full year, during which the equipment was used 2,700 hours?
- \$225,000.
 - \$210,000.
 - \$112,500.
 - \$113,400.
8. Grant Company has decided to change the estimate of the useful life of an asset that has been in service for 2 years. Which of the following statements describes the proper way to revise a useful life estimate?
- Revisions in useful life are permitted if approved by the IRS.
 - Retroactive changes must be made to correct previously recorded depreciation.
 - Only future years will be affected by the revision.
 - Both current and future years will be affected by the revision.
9. Jack's Copy Shop bought equipment for \$240,000 on January 1, 2018. Jack estimated the useful life to be 3 years with no salvage value, and the straight-line method of depreciation will be used. On January 1, 2019, Jack decides that the business will use the equipment for a total of 5 years. What is the revised depreciation expense for 2019?
- \$80,000.
 - \$32,000.
 - \$40,000.
 - \$60,000.
10. The Land account would include all of the following costs except
- drainage costs.
 - the cost of building a fence.
 - commissions paid to real estate agents.
 - the cost of tearing down a building.

11. Shaffer Company acquires land for \$77,000 cash. Additional costs are as follows.

Removal of shed	\$ 300
Filling and grading	1,500
Salvage value of lumber of shed	120
Broker commission	1,130
Paving of parking lot	10,000
Closing costs	560

Shaffer will record the acquisition cost of the land as

- a. \$77,000.
- b. \$78,690.
- c. \$80,610.
- d. \$80,370.

12. A company has the following assets:

Buildings and Equipment,	
less accumulated depreciation of \$5,000,000	\$25,000,000
Patents	2,400,000
Trademarks	10,000,000
Land	12,000,000
Goodwill	2,000,000
Cash	8,000,000

The total amount reported under Property, Plant, and Equipment would be

- a. \$25,000,000.
- b. \$37,000,000.
- c. \$47,000,000.
- d. \$45,000,000.

13. The term applied to the periodic expiration of a plant asset's cost is

- a. amortization.
- b. depletion.
- c. depreciation.
- d. cost expiration.

14. The book value of an asset is equal to the

- a. asset's fair value less its historical cost.
- b. blue book value relied on by secondary markets.
- c. replacement cost of the asset.
- d. asset's cost less accumulated depreciation.

15. Equipment that cost \$144,000 and on which \$120,000 of accumulated depreciation has been recorded was disposed of for \$36,000 cash. The entry to record this event would include a

- a. gain of \$12,000.
- b. loss of \$12,000.
- c. credit to the Equipment account for \$36,000.
- d. credit to Accumulated Depreciation for \$120,000.

EXERCISES

1. Indicate whether each of the following expenditures should be classified as land (L), land improvements (LI), buildings (B), equipment (E), or none of these (X).

- _____ 1. Parking lots
- _____ 2. Electricity used by a machine
- _____ 3. Interest on building construction loan
- _____ 4. Cost of trial runs for machinery
- _____ 5. Drainage costs
- _____ 6. Cost to install a machine
- _____ 7. Fences
- _____ 8. Unpaid (past) property taxes assumed
- _____ 9. Cost of tearing down a building when land and a building on it are purchased

2.

Revson Corporation purchased land adjacent to its plant to improve access for trucks making deliveries. Expenditures incurred in purchasing the land were as follows: purchase price, \$55,000; broker's fees, \$6,000; title search and other fees, \$5,000; demolition of an old building on the property, \$5,700; grading, \$1,200; digging foundation for the road, \$3,000; laying and paving driveway, \$25,000; lighting \$7,500; signs, \$1,500.

List the items and amounts that should be included in the Land account.

3. Equipment was acquired on January 1, 2013, at a cost of \$75,000. The equipment was originally estimated to have a salvage value of \$5,000 and an estimated life of 10 years. Depreciation has been recorded through December 31, 2016, using the straight-line method. On January 1, 2017, the estimated salvage value was revised to \$7,000 and the useful life was revised to a total of 8 years.

(A) Calculate the book value at the time of the revision (January 1, 2017).

(B) Determine the depreciation expense for 2017.

4.

Jones Company purchased a machine for \$400,000. The company expects the service life of the machine to be 5 years. During that time, it is expected that the machine's useful life will be 200,000 hours. The anticipated salvage value is \$30,000. The machine was disposed of after five years of use. Actual hours used during the five years of the asset's life was:

Year 1: 50,000 hours used

Year 2: 40,000 hours used

Year 3: 35,000 hours used

Year 4: 45,000 hours used

Year 5: 30,000 hours used

Prepare the 5 year depreciation schedule for the machine. Find the depreciation expense and the book value of the machine for each of the 5 years using the following depreciation methods.

A) Straight Line

B) Declining Balance (Double-Declining)

C) Units of Activity

*Use the tables below to help you.

A) STRAIGHT-LINE METHOD				
Depreciation Expense Per Year=				
YEAR	BEGINNING BOOK VALUE (\$)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1				
2				
3				
4				
5				

B) DOUBLE DECLINING METHOD					
Double-Declining Rate=					
YEAR	BEGINNING BOOK VALUE (\$)	DEPRECIATION RATE (%)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1					
2					
3					
4					
5					

C) UNITS OF ACTIVITY						
Depreciation Rate Per Unit =						
YEAR	BEGINNING BOOK VALUE (\$)	HOURS USED (HOURS)	DEPRECIATION RATE PER UNIT (\$ per hour)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1						
2						
3						
4						
5						

5.

Identify the following expenditures as **capital expenditures** or **revenue expenditures**.

- (a) Replacement of worn out gears on factory machinery.
- (b) Construction of a new wing on an office building.
- (c) Painting the exterior of a building.
- (d) Oil change on a company truck.
- (e) Replacing an old computer chip with a faster chip, which increases productive capacity. No extension of useful life expected.
- (f) Overhaul of a truck motor. One year extension in useful life is expected.
- (g) Purchased a wastebasket at a cost of \$10.
- (h) Painting and lettering of a used truck upon acquisition of the truck.

6. Indicate in the blank spaces below, the section of the balance sheet where the following items are reported. Use the following code to identify your answer:

PPE **Property, Plant, and Equipment**
I **Intangibles**
O **Other**
N/A **Not on the balance sheet**

- | | |
|-----------------------------------|---|
| _____ 1. Goodwill | _____ 6. Research and Development Costs |
| _____ 2. Land Improvements | _____ 7. Land |
| _____ 3. Buildings | _____ 8. Franchises |
| _____ 4. Accumulated Depreciation | _____ 9. Licenses |
| _____ 5. Trademarks | _____ 10. Equipment |

Chapter 9 Solutions**Multiple Choice Solutions**

1. **A**
2. **C**
3. **C**
4. **A**
5. **C**
6. **B**
7. **A**
8. **D**
9. **C**
10. **B**
11. **D**
12. **B**
13. **C**
14. **D**
15. **A**

Exercise Solutions**1.**

- | | |
|-------|-------|
| 1. LI | 5. L |
| 2. X | 6. E |
| | 7. LI |
| 3. B | 8. L |
| 4. E | 9. L |

2.

Purchase price	\$55,000
Broker's fees	6,000
Title search and other fees	5,000
Demolition of old building	5,700
Grading	1,200
Land acquisition cost	<u>\$72,900</u>

Chapter 9 Solutions (Cont.)**Exercise Solutions (Cont.)****3.**

(A) Step 1: Calculate the book value at the time of the revision:

$$\frac{\$75,000 - \$5,000}{10 \text{ years}} = \text{\$7,000 annual depreciation expense}$$

4 years have been depreciated: $\$7,000 \times 4 = \$28,000$

$$\begin{aligned} \text{Book value at the time of the revision} &= \text{Cost of Equipment} - \text{Accumulated Depreciation} \\ &= (\text{Cost} - (\text{ann.dep.} \times 4 \text{ yrs.})) \\ &= \$75,000 - \$28,000 = \text{\$47,000} \end{aligned}$$

(B) Step 2: Calculate the revised annual depreciation:

$(\text{Book value} - \text{Salvage value}) \div (8 \text{ yrs.} - 4 \text{ yrs.})$

$$\frac{\$47,000 - \$7,000}{4 \text{ years remaining}} = \text{\$10,000 revised annual depreciation}$$

The depreciation expense for 2017 is **\\$10,000**.

Chapter 9 Solutions (Cont.)**Exercise Solutions (Cont.)****4.****A) STRAIGHT-LINE METHOD****Depreciation Expense Per Year= $(\$400,000 - \$30,000) \div 5 = \$74,000$**

YEAR	BEG. PERIOD BK VALUE (\$)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1	\$400,000	\$74,000	\$74,000	\$326,000
2	\$326,000	\$74,000	\$148,000	\$252,000
3	\$252,000	\$74,000	\$222,000	\$178,000
4	\$178,000	\$74,000	\$296,000	\$104,000
5	\$104,000	\$74,000	\$370,000	\$30,000

B) DOUBLE DECLINING METHOD**Double-Declining Rate= $100\%/5 = 20\% \times 2 = 40\%$**

YEAR	BEG. PERIOD BK VALUE (\$)	DEPRECIATION RATE (%)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1	\$400,000	40.0%	\$160,000	\$160,000	\$240,000
2	\$240,000	40.0%	\$96,000	\$256,000	\$144,000
3	\$144,000	40.0%	\$57,600	\$313,600	\$86,400
4	\$86,400	40.0%	\$34,560	\$348,160	\$51,840
5	\$51,840	40.0%	*\$21,840	\$370,000	\$30,000

*Need to reach residual value of \$30,000 by end of year 5 so depreciation expense for year 5 is end book value year 4 (\$51,840) - \$30,000 Salvage Value = \$21,840

C) UNITS OF ACTIVITY

Depreciation Rate Per Unit = $(\$400,000 - \$30,000) \div 200,000 \text{ hours} = \1.85 per hour

YEAR	BEG. PERIOD BK VALUE (\$)	HOURS USED (HOURS)	DEPRECIATION RATE PER UNIT (\$ per hour)	DEPRECIATION EXPENSE (\$)	ACCUMULATED DEPRECIATION (END OF YEAR) (\$)	END BOOK VALUE (\$)
1	\$400,000	50,000	\$1.85	\$92,500	\$92,500	\$307,500
2	\$307,500	40,000	\$1.85	\$74,000	\$166,500	\$233,500
3	\$233,500	35,000	\$1.85	\$64,750	\$231,250	\$168,750
4	\$168,750	45,000	\$1.85	\$83,250	\$314,500	\$85,500
5	\$85,500	30,000	\$1.85	\$55,500	\$370,000	\$30,000

5.

- | | |
|-------------|-------------|
| (a) Revenue | (e) Capital |
| (b) Capital | (f) Capital |
| (c) Revenue | (g) Revenue |
| (d) Revenue | (h) Capital |

- | | |
|--|--|
| 6. 1. I Goodwill | 6. N/A Research and Development Costs |
| 2. PPE Land Improvements | 7. PPE Land |
| 3. PPE Buildings | 8. I Franchises |
| 4. PPE Accumulated Depreciation | 9. I Licenses |
| 5. I Trademarks | 10. PPE Equipment |

7. (a)

	Date	Debit	Credit
Depreciation Expense	Mar. 31	2,400	
Accumulated Depreciation—Equipment			2,400
To record depreciation expense for the first 3 months of 2017. $= [(\text{Cost} - \text{sal. val.}) \div 10 \text{ yrs}] \times 3/12 \dots$ $= (\$104,000 - 8,000) \div 10 \text{ years} \times (3/12)$ $= \$9,600 \times (3/12) = \$2,400$			
Cash	Mar. 31	21,000	
Loss on Disposal of Plant Assets		13,400	
Accumulated Depreciation—Equipment (\$67,200 + \$2,400)		69,600	
Equipment			104,000

(b)

	Date	Debit	Credit
Cash	Sept. 1	11,000	
Accumulated Depreciation—Equipment		20,000	
Equipment			31,000

(c)

	Date	Debit	Credit
Cash	Jul. 5	15,000	
Accumulated Depreciation—Equipment		31,500	
Equipment			45,000
Gain on Disposal of Plant Assets			1,500