

# ACCOUNTING FOR LONG-LIVED ASSETS

**\*\* PROBLEMS IN THIS MODULE INCLUDE TOPICS INCLUDED IN THE DEPRECIATION MODULE \*\***

## Key Terms and Concepts to Know

### Long-term assets:

- Capital expenditures are the cost of the asset, which include all expenditures to purchase the asset and make it ready for use.
- Salvage or residual value is the expected remaining value of the asset to the owner at the end of the useful life.
- Useful life is the period of time the asset is expected to be of service to its owner
- Tangible assets have physical existence
- Intangible assets are long-lived assets without physical existence, such as patents and copyrights.
- Additions and betterments vs. extraordinary repairs vs. revenue expenditures
- Impairments are permanent declines in the value of the asset and are recorded when known

### Revenue Expenditures

- Also called ordinary repair expenses
- Generally low in cost, occur more frequently and provide benefit for one year or less

### Disposal of Long-term assets:

- Discard and receive no compensation; may have a loss
- Sell and receive compensation; may have a gain or loss
- Retire or take out of service and receive no compensation; may have a loss
- Gain/loss vs. revenue /expense

**Leases:**

- Lessor – owner of the property
- Lessee – user of the property
- Leasehold – rights in the property granted by the lessor via the lease document to the lessee
- Leasehold improvements are the additions or changes the lessee makes to the leased property. Leasehold improvements are an asset to the lessee and are amortized over the remaining life of the lease.

**Return on Assets ratio**

- Sales divided by average total assets
- Measures how well the company uses its assets to generate profit
- Average assets are used because profits are made throughout the period and the average assets approximate the different amounts of assets used throughout the period.

**Asset Turnover Ratio**

- Net sales divided by Average total assets
- Measures how well the company is using assets to generate revenue
- Average assets are used because sales are made throughout the period and the average assets approximate the different amounts of assets used throughout the period.

**Return on Assets**

- Net income divided by average total assets
- Measures how effective a company is using its assets to generate net income
- Separated into two parts: Profit Margin and Asset Turnover
- Profit Margin X Asset Turnover = Return on Assets
- Profit Margin = net income divided by net sales
- Measures how effective a company is in generating net income from sales
- Asset Turnover = net sales divided by average total assets
- Measures how effective a company is using its assets to generate sales

## Key Topics to Know

### Acquisition Costs of Long-Lived Assets

Capital expenditures are the cost of the asset, which include all expenditures to purchase the asset and make it ready for use. This is a similar concept to the cost of inventory which included transportation in (FOB shipping point), a cost which was not a purchase cost of the inventory but a necessary cost to get the inventory ready to sell.

#### **Example #1**

M Company incurred the following costs during

Purchase price	\$185,000
Real estate commission	15,000
Legal fees	700
Expenses of clearing the land	2,000
Expenses to remove old building on the land	4,000
Replacement of a street lamp knocked over during the site preparation period	1,500

Required: Determine the cost of the land

#### **Solution #1**

Purchase price	\$185,000
Real estate commission	15,000
Legal fees	700
Expenses of clearing the land	2,000
Expenses to remove old building on the land	<u>4,000</u>
Total cost	\$206,700

The cost of the street lamp is not included in the cost of the land because it was not a necessary expenditure to prepare the site. It is recorded as an expense in the period in which it occurred.

## Disposal of Long-Term Assets

For all disposals of plant assets:

- Accumulated depreciation and depreciation expense must be calculated and recorded in the general ledger through the date of disposal. That is, they must be brought up to date before recording the disposal.
- The book value or cost of the asset less its accumulated depreciation must be removed from the accounting records.
- If the asset is disposed of for more than its book value, the seller records a gain on disposal. If the asset is disposed of for less than its book value, the seller records a loss on disposal.

### **Discarding a Plant Asset**

- Update depreciation to date of disposal.
- Remove the asset and its accumulated depreciation from the accounting records.
- If the asset is not fully depreciated, record a loss equal to its book value.

### **Example #2**

On January 2 Company W discarded Machine #1, which originally cost \$10,000 and has accumulated depreciation of \$10,000. Prepare a journal entry to record the discarding of the machinery.

### **Solution #2**

Accumulated Depreciation- Machinery	10,000	
Machinery		10,000

### **Example #3**

On January 2 Company W retired Machine #2, which originally cost \$25,000 and has accumulated depreciation of \$20,000. Prepare a journal entry to record the discarding of the machinery.

### **Solution #3**

Accumulated Depreciation- Machinery	20,000	
Loss on disposal	5,000	
Machinery		25,000

**Sale of a Plant Asset**

- Update depreciation to date of disposal.
- Remove the asset and its accumulated depreciation from the accounting records.
- If the asset is not fully depreciated, record a loss equal to its book value.
- Record a gain or loss: Gain if cash received exceeds book value OR  
Loss if book value exceeds cash received

**Example #4**

On January 1, a machine that cost \$50,000 was sold for \$16,000. The accounting records revealed that accumulated depreciation as of January 1 was \$35,000 and annual depreciation is \$5,000.

**Solution #4**

Gain on disposal:

Selling Price	\$16,000	
-Book Value	<u>15,000</u>	(50,000 – 35,000)
Gain	1,000	

Cash	16,000	
Accumulated Depreciation- Machinery	35,000	
Machinery		50,000
Gain on disposal		1,000

## Practice Problems

### **Practice Problem #1**

On January 2, O Company decided to discard equipment that originally cost \$50,000. Accumulated depreciation on the equipment was \$42,000.

Required: Journalize the entry to dispose of the equipment.

### **Practice Problem #2**

On January 1 a machine, which cost \$75,000, was sold for \$4,000. The following information was obtained from the accounting records: accumulated depreciation on December 31 was \$61,250 and the annual depreciation was \$8,750.

Required: Journalize the entry to dispose of the equipment.

### **Practice Problem #3**

On September 1 V Company sold a building that cost \$375,000 for \$304,000. The following information was obtained from the accounting records: accumulated depreciation on September 1 was \$212,500 and the annual depreciation was \$12,500.

Required: Journalize the entry to dispose of the equipment.

### **Practice Problem #4**

P Company reported the following information for the year:

Total assets, January 1	\$7,000,000
Total assets, December 31	7,800,000
Net sales	35,000,000
Net income	1,500,000

Required:

- a) Determine the return on assets
- b) Determine the asset turnover
- c) Determine profit margin, asset turnover and return on assets

## True / False Questions

1. Long-term assets are recorded at cost less all expenditures necessary to get the asset ready for use.  
True   False
2. Proceeds from the sale of salvaged materials increases the total cost of land.  
True   False
3. Land improvements are recorded separately from the land itself because, unlike land, these assets are subject to depreciation.  
True   False
4. Purchased intangible assets are recorded at their original cost plus all other costs necessary to get the asset ready for use.  
True   False
5. A patent is an exclusive right to a published work such as a song or painting.  
True   False
6. Repairs and maintenance expenditures are capitalized because they maintain a given level of benefits or performance from an asset.  
True   False
7. If a firm successfully defends an intangible right, it should expense the litigation costs as incurred.  
True   False
8. Book value is equal to the original cost of the asset minus the current balance in Accumulated Depreciation.  
True   False
9. Intangible assets with an indefinite useful life such as goodwill are not amortized.  
True   False
10. Land improvements are costs for additions to the land once it is ready to use.  
True   False

## Multiple Choice Questions

1. Undeveloped land acquired as a speculation is listed in the balance sheet as a:
  - a) Current asset
  - b) Investment
  - c) Plant asset
  - d) Intangible asset
  
2. Ordinary repairs are reported on
  - a) Balance sheet
  - b) Income statement
  - c) Statement of retained earnings
  - d) Statement of cash flows
  
3. Patents are reported on the balance sheet in the:
  - a) Current assets section
  - b) Intangible assets section
  - c) Plant assets section
  - d) Investments section
  
4. All things being equal except the net sales to average total assets, a lender would prefer to lend to a company whose ratio is
  - a) 4.0
  - b) 2.5
  - c) 3.0
  - d) 3.5
  
5. S Company has the following asset account balances:

Buildings and equipment	\$9,200,000
Accumulated Depreciation	1,200,000
Patents	750,000
Land Improvements	1,000,000
Land	5,000,000

The total amount reported on the balance sheet under Property, Plant & Equipment would be:
  - a) \$14,000,000
  - b) \$13,000,000
  - c) \$12,800,000
  - d) \$13,550,000



6. C Company purchased land for \$80,000. The company also paid \$12,000 in accrued taxes on the property, incurred \$5,000 to remove an old building, and received \$2,000 from the salvage of the old building. The land will be recorded at:
- a) \$80,000
  - b) \$95,000
  - c) \$92,000
  - d) \$83,000
7. On April 1, L Company sells some equipment for \$18,000. The original cost was \$50,000, the estimated salvage value was \$8,000, and the expected useful life was 6 years. On December 31 of the previous year, the Accumulated Depreciation account had a balance of \$29,400. The gain or loss on the sale was:
- a) \$2,600 gain
  - b) \$300 gain
  - c) \$850 loss
  - d) \$5,400 gain
8. O Company purchased land for \$70,000 on January 1. As of May 31, the land increased in value to \$71,500. On December 31, the land was appraised for \$74,000. The Land account should be increased by:
- a) \$4,000
  - b) \$1,500
  - c) \$2,500
  - d) \$0
9. Which of the following costs would not be included in the cost of the equipment?
- a) Insurance
  - b) Installation
  - c) Testing
  - d) Freight
10. Which of the following is not a depreciable asset?
- a) Land improvements
  - b) Equipment
  - c) Buildings
  - d) Land

## Solutions to Practice Problems

### Practice Problem #1

Accumulated Depreciation	42,000	
Loss on disposal	8,000	
Equipment		50,000

### Practice Problem #2

Cash	4,000	
Accumulated Depreciation	61,250	
Loss on disposal	9,750	
Equipment		75,000

### Practice Problem #3

Cash	304,000	
Accumulated Depreciation	212,500	
Gain on disposal		141,500
Equipment		375,000

### Practice Problem #4

a)	Return on assets	$\frac{\$1,500,000}{(\$7,000,000 + \$7,800,000)/2}$	20.3%
b)	Asset turnover	$\frac{\$35,000,000}{(\$7,000,000 + \$7,800,000)/2}$	4.73
c)	Profit margin	$\frac{\$1,500,000}{\$35,000,000}$	4.3%
	Asset turnover	$\frac{\$35,000,000}{(\$7,000,000 + \$7,800,000)/2}$	4.73
	Return on assets	4.3% X 4.73	20.3%

## Solutions to True / False Problems

1. False - long-term assets are recorded at cost *plus* all expenditures necessary to get the asset ready for use.
2. False - cash received from the sale of salvaged materials decreases the total cost of land.
3. True
4. True
5. False - a patent is an exclusive right to manufacture a product or to use a process. A copyright is an exclusive right of protection given to the creator of a published work such as a song, film, painting, photograph, book, or computer software.
6. False - repairs and maintenance expenditures are expensed in the period incurred because they maintain a given level of benefits.
7. False - if a firm successfully defends an intangible right, it should capitalize the litigation costs and amortize them over the remaining useful life of the related intangible.
8. True
9. True
10. True

## Solutions to Multiple Choice Questions

- |     |   |
|-----|---|
| 1.  | B |
| 2.  | B |
| 3.  | B |
| 4.  | A |
| 5.  | A |
| 6.  | B |
| 7.  | C |
| 8.  | D |
| 9.  | A |
| 10. | D |