

Chapter 10

Long-Term Assets: Fixed and Intangible

Study Guide Solutions

Fill-in-the-Blank Equations

1. Residual value
2. Useful life
3. Straight-line rate
4. Total estimated units of activity
5. Straight-line rate
6. Depletion rate
7. Fixed asset turnover ratio

Exercises

1. Joe Kerr's Store recently purchased insurance for the upcoming year. Should the cost be classified as a fixed asset, an investment, or an expense?

Expense

2. Joe Kerr's Store spent \$1,600 to purchase land. The company plans to hold the land to build a new store. Will the cost be classified as a fixed asset, an investment, or an expense?

Fixed asset

3. Sunny Sites is looking to generate income from excess cash. The company purchased a new building, which will be restored and hopefully sold at a profit. Should the building be classified as a fixed asset, an investment, or an expense?

Investment

Strategy: Using the diagram in the chapter, determine if the expenditure will be long-lived. If the expenditure affects only one period, it should be classified as an expense. If the expenditure is long-lived, it will be classified as an investment or a fixed asset. If the asset will be used in the normal business operations, the asset will be a fixed asset. Investments are assets that are used for something other than the normal operations (main business) of the company.

4. Sunny Sites recently purchased land that the company expects to be the site of a new office. Which of the following costs should be included in the cost of the land?
- Yes
 - No
 - Yes

5. In September, More Value purchased a new piece of machinery that will be used to manufacture its top selling product. The purchase price of the machine was \$2,215. In addition, More Value also paid: freight, \$200; installation, \$570; testing, \$900; and repairs due to mishandling, \$300. Ignoring the depreciation expense, at what cost should the machinery be recorded on the balance sheet?

\$3,885; ($\$2,215 + \$200 + \$570 + \900)

6. During the year, More Value purchased a new building at a cost of \$226,700. The company also paid the following amounts in relation to the building: architects' fees to make necessary modifications, \$1,700; sales taxes, \$1,600; modification costs, \$9,200; vandalism during construction, \$975; and permits, \$1,400. Before acquiring the permit, the city charged \$750 to the company for failing to receive a permit in the necessary time period. At what cost should the building be recorded on the balance sheet?

\$240,600; ($\$226,700 + \$1,700 + \$1,600 + \$9,200 + \$1,400$)

Strategy: In addition to the purchase price, costs directly related to acquiring and preparing the fixed asset for use should be included in the cost of the asset. If the cost could have been avoided with due care (such as vandalism or mistakes), it should not be included in the cost of the asset.

7. The Coffee Spot's depreciation expense was \$1,600 for its building for the fiscal year. Prepare the journal entry to record the expense if the company's fiscal year ends September 30.

Sept. 30	Depreciation Expense—Building	1,600	
	Accumulated Depreciation—Building		1,600

8. Smokin' Bill's purchased a new delivery van on November 3. The company estimates depreciation to be \$900 per month. Prepare the journal entry to record the first month's depreciation. Smokin' Bill's accountant prepares the journal entry on the last day of the month.

Nov. 30	Depreciation Expense—Delivery Van	900	
	Accumulated Depreciation—Delivery Van		900

9. Torti Tumbler purchased a new piece of equipment on April 18. The company estimates depreciation to be \$120 per month of use. If the company records depreciation on the last day of its calendar year-end, prepare the adjusting journal entry for the year of purchase.

Dec. 31	Depreciation Expense—Equipment	960	
	Accumulated Depreciation—Equipment		960

Strategy: To record depreciation, debit Depreciation Expense and credit Accumulated Depreciation for the correct amount. Accumulated Depreciation is the contra account associated with the asset and has a balance that includes all depreciation recorded to date. If the asset is purchased or sold during the first half of the month, the purchase or sale is treated as occurring during that month, while purchases and sales during the second half of the month are treated as occurring the first day of the next month. Depreciation should consider the treatment of purchases and sales to record the correct amount.

10. Mike’s Tires purchases a new piece of equipment for \$5,200. It also pays \$500 for installation and \$200 for delivery. If the company expects the equipment to last for 10 years, with a \$900 residual value, calculate the following:

- a. Depreciable cost
\$5,000; $(\$5,200 + \$500 + \$200) - \900
- b. Straight-line rate
10%; $(100\% \div 10 \text{ years})$
- c. Annual straight-line depreciation
\$500; $(\$5,000 \times 10\%)$ or $(\$5,000 \div 10 \text{ years})$

11. On September 6, Pop’s Repair Shop purchases a new truck that will be used for home visits. The truck costs \$17,200, and the company paid an additional \$1,100 for sales taxes. The company expects the truck to last eight years, with a \$1,200 salvage value. Calculate the following:

- a. Depreciable cost
\$17,100; $(\$17,200 + \$1,100) - \$1,200$
- b. Straight-line rate
12.5%; $(100\% \div 8 \text{ years})$
- c. Straight-line depreciation for the year (round to the nearest dollar)
\$713; $[(\$17,100 \times 12.5\%) \times 4/12]$ or $[(\$17,100 \div 8 \text{ years}) \times 4/12]$

12. On October 27, The Coffee Shop purchases a new computer system. The system was \$1,200 and also required a \$400 installation fee. The company expects to use the system for 12 years, with a \$200 scrap value. If the company uses the straight-line method to record depreciation, determine the following:

- a. Depreciable cost
\$1,400; $(\$1,200 + \$400) - \$200$
- b. Straight-line rate (round to two decimal places)
8.33%; $(100\% \div 12 \text{ years})$
- c. Annual depreciation (round to the nearest dollar)
\$117; $(\$1,400 \times 8.33\%)$ or $(\$1,400 \div 12 \text{ years})$
- d. Straight-line depreciation for the year (round to the nearest dollar)
\$20; $[(\$1,400 \times 8.33\%) \times 2/12]$ or $[(\$1,400 \div 12 \text{ years}) \times 2/12]$

Strategy: First, determine the depreciable cost of the asset, which is the total cost less the residual value. Straight-line annual depreciation can be calculated by dividing the depreciable cost by the useful life or by multiplying the depreciable cost by the straight-line percentage rate. The percentage rate is found by dividing 100% by the expected useful life. The company will depreciate the asset at this rate every year.

13. Swift Productions calculates depreciation using the units-of-activity method. The company expects to use the machine for 2,000 hours. The cost of the machine was \$9,200, with a \$700 residual value.

- a. Calculate the depreciation per hour of use.
\$4.25 = $(\$9,200 - \$700) \div 2,000 \text{ hours}$
- b. If the company uses the machine for 200 hours during the year, prepare the journal entry to record the use as of the calendar year-end.

Dec. 31	Depreciation Expense—Machine	850	
	Accumulated Depreciation—Machine		850

$$\text{Depreciation expense} = \$4.25 \text{ per hour} \times 200 \text{ hours} = \$850$$

14. The Coffee Shop purchases a new computer for \$4,900 and pays \$600 for delivery and installation. The company expects the computer to have a five-year useful life, with 15,000 total hours used.

a. Calculate the depreciation per hour of use. Round to the nearest cent.

$$\$0.37; (\$4,900 + \$600) \div 15,000 \text{ hours}$$

b. If the company uses the computer for 650 hours during the year, calculate the depreciation expense for the year.

$$\$240.50; \$0.37 \text{ per hour} \times 650 \text{ hours}$$

15. More Value purchases a new piece of equipment for \$22,700. The company pays \$750 for delivery fees and \$1,100 for necessary testing. The company expects to produce 20,500 units with the equipment.

a. Calculate the depreciation per unit of activity. Round to the nearest cent.

$$\$1.20; (\$22,700 + \$750 + \$1,100) \div 20,500 \text{ units}$$

b. Prepare the journal entry for the calendar year-end if the company uses the equipment to manufacture 1,250 units.

Dec. 31	Depreciation Expense—Equipment	1,500	
	Accumulated Depreciation—Equipment		1,500

$$\text{Depreciation expense} = \$1.20 \text{ per unit of activity} \times 1,250 \text{ units} = \$1,500$$

Strategy: To find the rate at which an asset will depreciate using the units-of-activity method, divide the depreciable cost by the total estimated units of activity. The rate is the amount of depreciation the business will record per unit produced. Calculate the expense by multiplying the depreciation rate by the number of units produced during the period.

16. Mike's Tires uses the double-declining-balance method to calculate depreciation for its truck. The company purchased the truck on September 2, 20Y1, for \$15,200 and a \$250 delivery fee. The company expects the truck to last 20 years and have a \$1,700 salvage value at that date. Calculate the following:
- Double-declining-balance rate
10%; $(100\% \div 20 \text{ years}) \times 2$
 - Depreciation expense for 20Y1
\$515; $(\$15,200 + \$250) \times 10\% \times 4/12$
 - Depreciation expense for 20Y2
\$1,493.50; $(\$15,200 + \$250 - \$515) \times 10\%$
17. Smokin' Bill's purchases a piece of equipment for \$7,900 on January 1, 20Y1. The company also pays \$1,200 for testing, \$900 for permits for use, and \$700 for damage due to mishandling. The company expects the equipment to last seven years with a \$1,000 salvage value and uses the double-declining-balance method. Prepare a schedule to show the depreciation expense for the full life of the equipment. Round the double-declining-balance rate to one decimal place.

Year	Cost	Accum. Depr. at Beginning of Year	Book Value at Beginning of Year	Double-Declining-Balance Rate	Depr. for Year	Book Value at End of Year
1	\$10,000		\$10,000.00	28.6%	\$2,860.00	\$7,140.00
2	10,000	\$2,860.00	7,140.00	28.6%	2,042.04	5,097.96
3	10,000	4,902.04	5,097.96	28.6%	1,458.02	3,639.94
4	10,000	6,360.06	3,639.94	28.6%	1,041.02	2,598.92
5	10,000	7,401.08	2,598.92	28.6%	743.29	1,855.63
6	10,000	8,144.37	1,855.63	28.6%	530.71	1,324.92
7	10,000	8,675.08	1,324.92	28.6%	324.92	1,000.00

$$\text{Cost} = \$7,900 + \$1,200 + \$900 = \$10,000$$

$$\text{Double-declining-balance rate} = (100\% \div 7 \text{ years}) \times 2 = 28.6\%$$

Strategy: The double-declining-balance method does not use salvage value in calculating depreciation expense. Instead, it uses the asset's balance sheet amount (book value) to calculate the expense. First, determine the straight-line percentage rate. Multiply this rate by 2 to find the double-declining-balance rate. The depreciation expense can be calculated by multiplying the asset's book value by the double-declining-balance rate. In the last year, the asset's value cannot be depreciated below the salvage value, so the amount of depreciation for the last period will be the book value less the salvage value.

18. More Value purchases a new piece of machinery for \$17,600 in 20Y1. The company also pays \$1,000 for delivery, \$900 for testing, and \$700 related to permits for use. More Value expects the machinery to last four years, with a \$1,500 salvage value. Prepare a schedule to show the depreciation expense over the life of the equipment using the double-declining-balance method. Round the rate to one decimal place.

Year	Cost	Accum. Depr. at Beginning of Year	Book Value at Beginning of Year	Double-Declining-Balance Rate	Depr. for Year	Book Value at End of Year
1	\$20,200		\$20,200.00	50%	\$10,100.00	\$10,100.00
2	20,200	\$10,100.00	10,100.00	50%	5,050.00	5,050.00
3	20,200	15,150.00	5,050.00	50%	2,525.00	2,525.00
4	20,200	17,675.00	2,525.00		1,025.00	1,500.00

$$\text{Cost} = \$17,600 + \$1,000 + \$900 + \$700 = \$20,200$$

$$\text{Double-declining-balance rate} = (100\% \div 4 \text{ years}) \times 2 = 50\%$$

Strategy: The double-declining-balance method does not use salvage value in calculating depreciation expense. Instead, it uses the asset's balance sheet amount (book value) to calculate the expense. First, determine the straight-line percentage rate. Multiply this rate by 2 to find the double-declining-balance rate. The depreciation expense can be calculated by multiplying the asset's book value by the double-declining-balance rate. In the last year, the asset's value cannot be depreciated below the salvage value, so the amount of depreciation for the last period will be the book value less the salvage value.

19. Big Sips received new information as of January 1, 20Y3, for an asset that was originally purchased for \$45,200 on January 1, 20Y1. The original expected useful life was seven years, with an estimated residual value of \$4,500. Using the information, Big Sips now estimates the machine will last another 10 years with a residual value of \$5,000. If Big Sips uses the straight-line method to determine depreciation expense, calculate the following:

- a. Accumulated depreciation as of January 1 (round to the nearest whole dollar)

$$\$11,629; [(\$45,200 - \$4,500) \div 7 \text{ years}] \times 2 \text{ years}$$

- b. Revised annual depreciation expense for December 31 (round to the nearest whole dollar)

$$\$2,857; [(\$45,200 - \$11,629) - \$5,000] \div 10 \text{ years}$$

Strategy: Since depreciation is an estimate, the company may be incorrect or have new information that will change the estimate. If so, depreciation should be adjusted to reflect the correct amount. First, calculate the accumulated depreciation to date and subtract this amount from the original cost to determine the book value to date. The book value to date less the revised salvage value is the revised depreciable cost. Divide the revised depreciable cost by the remaining useful life to calculate the revised annual depreciation expense. If the revised useful life is given as a total, the time already past should be subtracted to find the remaining number of periods the asset will be depreciated.

20. D-Signs purchased a new delivery truck on June 30, 20Y5, for \$15,150 and a \$5,000 delivery fee. The company estimated the truck would be used for 15 years with a \$1,200 residual value. As of January 1, 20Y8, D-Signs revises its estimate of the useful life to 12 total years with a \$1,500 residual value. If the company uses the straight-line method to calculate depreciation expense, determine the following:

a. Accumulated depreciation as of January 1 (round to the nearest whole dollar)

$$\$3,158; \{[(\$15,150 + \$5,000) - \$1,200] \div 15 \text{ years}\} \times 2.5 \text{ years}$$

b. Book value of the truck as of January 1, 20Y8

$$\$16,992; (\$15,150 + \$5,000) - \$3,158$$

c. Revised annual depreciation expense (round to the nearest whole dollar)

$$\$1,631; (\$16,992 - \$1,500) \div 9.5 \text{ years}$$

Strategy: Since depreciation is an estimate, the company may be incorrect or have new information that will change the estimate. If so, depreciation should be adjusted to reflect the correct amount. First, calculate the accumulated depreciation to date and subtract this amount from the original cost to determine the book value to date. The book value to date less the revised salvage value is the revised depreciable cost. Divide the revised depreciable cost by the remaining useful life to calculate the revised annual depreciation expense. If the revised useful life is given as a total, the time already past should be subtracted to find the remaining number of periods the asset will be depreciated.

21. More Value has a building that was originally purchased for \$200,000 on January 1, 20Y4. The company expected the building to have a useful life of 25 years with a \$20,000 salvage value. At the beginning of 20Y9, the company revises its useful life to a total of 35 years with a \$14,000 salvage value. If the company uses the straight-line method to calculate depreciation, determine the following:

- a. Accumulated depreciation to date
 $\$36,000; [(\$200,000 - \$20,000) \div 25 \text{ years}] \times 5 \text{ years}$
- b. Book value as of January 1, 20Y9
 $\$164,000; (\$200,000 - \$36,000)$
- c. Revised annual depreciation expense
 $\$5,000; (\$164,000 - \$14,000) \div 30 \text{ years}$

Strategy: Since depreciation is an estimate, the company may be incorrect or have new information that will change the estimate. If so, depreciation should be adjusted to reflect the correct amount. First, calculate the accumulated depreciation to date and subtract this amount from the original cost to determine the book value to date. The book value to date less the revised salvage value is the revised depreciable cost. Divide the revised depreciable cost by the remaining useful life to calculate the revised annual depreciation expense. If the revised useful life is given as a total, the time already past should be subtracted to find the remaining number of periods the asset will be depreciated.

22. Smokin’ Bill’s spent \$1,200 on December 21 to repair an air conditioning unit for the store and attached office. Prepare the journal entry to record this expense.

Dec. 21	Repairs and Maintenance Expense	1,200	
	Cash		1,200

23. On August 19, Tasty Treats’ delivery truck got a flat tire. The cost to repair the tire was \$45. Since Tasty Treats uses Pop’s Repair Shop for all repairs, the company pays for the repair on account and will pay for all repairs at the end of the month. Prepare the journal entry to record the expense.

Aug. 19	Repairs and Maintenance Expense	45	
	Accounts Payable		45

24. Prepare Torti Tumbler's journal entry to record a \$200 expenditure, which was paid on September 28, for computer repair.

Sept. 28	Repairs and Maintenance Expense	200	
	Cash		200

Strategy: Revenue expenditures, or repairs and maintenance expenses, should be recorded as expenses, since they affect only one period and will not benefit the asset in future periods. To record an expense, debit the expense account for the correct amount. Credit Cash (or Accounts Payable) to show the payment or addition to the account for the amount.

25. Smokin' Bill's upgraded its air conditioning unit by paying cash for a \$400 solar panel on September 12. The company expects the solar panel will help reduce utility bills in the summer. Prepare the journal entry to record the expenditure.

Sept. 12	Air Conditioning Unit	400	
	Cash		400

26. The Coffee Spot recently spent \$575 to revamp an old sound system. The useful life of the sound system has increased by seven years. Prepare the journal entry to record the expenditure on October 10.

Oct. 10	Accumulated Depreciation—Sound System	575	
	Cash		575

27. During November, Pop's Repair Shop had the following expenditures: \$1,200 on the 15th to update the computer system for less lag time when ordering parts and \$790 to extend the useful life of the automatic lift by three years on the 22nd. Prepare the journal entries to record the expenditures.

Nov. 15	Computer System	1,200	
	Cash		1,200

Nov. 22	Accumulated Depreciation—Automatic Lift	790	
	Cash		790

Strategy: Since a capital expenditure will improve an asset, thus affecting multiple periods, the expenditure should not be recorded as an expense. If the expenditure will update and improve the asset, increase the value of the asset by debiting the asset's account for the amount paid. If the expenditure will increase the useful life of the asset, the accumulated depreciation should be decreased by debiting the account. An increase in useful life means that any wear and tear already recorded won't affect the asset as much since it now will be used for a longer period of time.

28. Big Sips has a piece of equipment that is fully depreciated as of June 30. The equipment had an original cost of \$22,000 and no residual value. Prepare the journal entry to record the disposal of the asset.

June 30	Accumulated Depreciation—Equipment	22,000	
	Equipment		22,000

29. D-Signs calculates depreciation expense using the units-of-activity method for a delivery van that originally cost \$15,500. The van had an estimate of 100,000 miles of use, with a \$2,000 residual value. As of the beginning of 20Y5, the van has been driven 92,000 miles. Before disposing of the asset on March 15, 20Y5, the company drives the van an additional 2,000 miles. Prepare the journal entries to record the depreciation for 20Y5 and the disposal of the asset.

Mar. 15	Depreciation Expense—Delivery Van	270	
	Accumulated Depreciation—Delivery Van		270

Mar. 15	Accumulated Depreciation—Delivery Van	12,690	
	Loss on Disposal of Delivery Van	2,810	
	Delivery Van		15,500

Depreciation per mile = $(\$15,500 - \$2,000) \div 100,000 \text{ miles} = \$0.135/\text{mile}$

Depreciation expense = $\$0.135 \text{ per mile} \times 2,000 \text{ miles} = \270

Accumulated depreciation = $\$0.135 \times 94,000 = \$12,690$

- 30.** Mike's Tires uses the straight-line method to calculate depreciation expense for an asset purchased on January 1, 20Y0. The company has a piece of equipment that originally cost \$5,750 and had an estimated useful life of 10 years and no salvage value. After five years of service, the company decides to dispose of the asset. Prepare the journal entry on September 10, 20Y5, to record the depreciation expense and disposal of the asset.

Sept. 10	Depreciation Expense—Equipment	431.25	
	Accumulated Depreciation—Equipment		431.25

Sept. 10	Accumulated Depreciation—Equipment	3,306.25	
	Loss on Disposal of Equipment	2,443.75	
	Equipment		5,750.00

Depreciation expense = $(\$5,750 \div 10 \text{ years}) \times 9/12 = \431.25

Accumulated depreciation = $(\$5,750 \div 10 \text{ years}) \times 5.75 \text{ years} = \$3,306.25$

Strategy: Before disposing of an asset, a business must first record the depreciation expense for the period prior to the disposal, since the asset was used during this time. If the asset has been fully depreciated, there will be no loss on disposal. However, if the business disposes of the asset before fully depreciating the asset, the loss will be the cost less accumulated depreciation, or remaining value the company would have depreciated if the asset continued to be used. Debit Accumulated Depreciation for the amount of depreciation the company has recorded to date for the asset and credit the asset at its cost to remove it from the company's books.

- 31.** D-Signs sells the delivery van in Exercise 29 for \$2,000 cash. Prepare the journal entry to record the sale of the van on March 15, 20Y5. Assume the depreciation expense has already been recorded for the year.

Mar. 15	Cash	2,000	
	Accumulated Depreciation—Delivery Van	12,690	
	Loss on Sale of Delivery Van	810	
	Delivery Van		15,500

- 32.** Mike's Tires sells the piece of equipment in Exercise 30 for \$2,750. If the company has already booked the depreciation expense for the year, prepare the journal entry to record the sale of the equipment on September 10, 20Y5.

Sept. 10	Cash	2,750.00	
	Accumulated Depreciation—Equipment	3,306.25	
	Gain on Sale of Equipment		306.25
	Equipment		5,750.00

- 33.** Big Sips sells a truck with an original cost of \$18,000 and \$12,000 accumulated depreciation as of December 31, 20Y4, for \$5,700 cash on March 1, 20Y5. The company uses straight-line depreciation to depreciate the truck over 10 years with no salvage value. Prepare the journal entry to record the depreciation expense and sale of the truck.

Mar. 1	Depreciation Expense—Truck	300	
	Accumulated Depreciation—Truck		300
Mar. 1	Cash	5,700	
	Accumulated Depreciation—Truck	12,300	
	Truck		18,000

Depreciation expense = $(\$18,000 \div 10 \text{ years}) \times 2/12 = \300

Strategy: *If a company sells an asset for its book value, the company will not record a gain or loss since the value received is equal to the value given. If the company sells an asset and the book value of the asset is greater than the cash received, the company will record a loss for the difference. If the company sells an asset and the book value of the asset is less than the cash received, the company will record a gain for the difference. Just as in disposing of an asset, the depreciation for the period prior to the sale should be recorded, the asset should be removed from the books, and the accumulated depreciation account should be adjusted to remove the amount of depreciation recorded for the asset. Cash should also be increased for the amount of cash received in the sale.*

- 34.** Green Wood estimates that 5,000,000 trees will be harvested from a particular lot at a total cost of \$3,000,000. During the year, the company harvests 250,000 trees. Calculate the depletion rate for the company, and record the adjusting entry to record depletion for the year.

Dec. 31	Depletion Expense	150,000	
	Accumulated Depletion		150,000

Depletion rate = \$0.60; $\$3,000,000 \div 5,000,000 \text{ trees}$
 Depletion expense = $\$0.60 \text{ per tree} \times 250,000 \text{ trees} = \$150,000$

- 35.** Nature's Minerals purchased mining rights of a mineral deposit for \$250,000. The company expects to produce 100,000 tons from the deposit. During the year, Nature's Minerals produced 22,000 tons. Calculate the depletion rate for the company, and prepare the journal entry to record depletion for the year.

Dec. 31	Depletion Expense	55,000	
	Accumulated Depletion		55,000

Depletion rate = \$2.50; $\$250,000 \div 100,000$ tons

Depletion expense = \$2.50 per ton \times 22,000 tons = \$55,000

- 36.** During the year, Green Wood extracts 125,000 tons of metal. The company expects to extract 900,000 tons of metal from the area at a cost of \$2.79 million. Calculate the company's depletion rate, and prepare the journal entry to record depletion for the year.

Dec. 31	Depletion Expense	387,500	
	Accumulated Depletion		387,500

Depletion rate = \$3.10; $\$2,790,000 \div 900,000$ tons

Depletion expense = \$3.10 per ton \times 125,000 tons = \$387,500

Strategy: Depletion expense is found similar to the units-of-activity method in calculating depreciation. First, calculate the depletion rate by dividing the cost of the resource by the estimated total units of the resource. The rate is the estimated cost of producing each unit of the resource. Next, find the depletion expense by multiplying the depletion rate by the quantity extracted for the period.

- 37.** Nature's Minerals purchases a patent for \$58,000. The company also incurs \$7,000 in legal fees to obtain the patent. The patent will expire in 10 years and has a remaining useful life of eight years. Prepare the journal entry to amortize the patent at the end of the year.

Dec. 31	Amortization Expense—Patents	8,125	
	Patents		8,125

Amortization expense = $(\$58,000 + \$7,000) \div 8$ years = \$8,125

38. At the beginning of the year, Torti Tumbler purchased a copyright for \$75,000. The copyright is expected to last another 10 years but has a legal life of five years. Prepare the journal entry to amortize the patent at the end of the year.

Dec. 31	Amortization Expense—Copyrights	15,000	
	Copyright		15,000

Amortization expense = \$75,000 ÷ 5 years = \$15,000

39. On September 1, Green Wood purchases a patent for \$36,000. The patent has a 15-year legal life but has a 10-year remaining useful life. Prepare the journal entry to amortize the patent at the end of the year.

Dec. 31	Amortization Expense—Patents	1,200	
	Patent		1,200

Amortization expense = (\$36,000 ÷ 10 years) × 4/12 = \$1,200

Strategy: Amortization expense is found by dividing the cost of the asset by the estimated useful life. If the legal life is shorter, use the legal life for the useful life since the company will only be able to use the asset for the remainder of the legal life. Because the intangible asset will be fully amortized by the end of the life, credit the intangible asset directly.

40. Mattress Co. purchased a business for \$700,000 over the fair value of its net assets, which was recorded as goodwill. On August 1, the company realizes the goodwill is only worth \$550,000. Prepare the journal entry to record the loss in value.

Aug. 1	Loss from Impaired Goodwill	150,000	
	Goodwill		150,000

41. When reviewing its intangible assets on September 30, AMC Inc. determines that its goodwill has been impaired by \$60,000. Prepare the journal entry to record the impairment loss.

Sept. 30	Loss from Impaired Goodwill	60,000	
	Goodwill		60,000

42. AMC Inc. paid \$675,000 for a business whose assets and liabilities were worth \$900,000 and \$345,000, respectively. On March 31, the company realizes the goodwill from this purchase is now worth \$95,000. Prepare the journal entry to record the decline in value.

Mar. 31	Loss from Impaired Goodwill	25,000	
	Goodwill		25,000

Original goodwill = \$675,000 – (\$900,000 – \$345,000) = \$120,000

Impairment loss = \$120,000 – \$95,000 = \$25,000

Strategy: First, calculate the impairment loss by subtracting the new value of goodwill from the original value of goodwill. Credit Goodwill to decrease the account, since the company no longer has the full amount initially recorded. Debit Loss from Impaired Goodwill to record the loss.

43. For its fiscal year, Nature's Minerals had revenues of \$75,000. The company's operating expenses included: depletion expense, \$12,000; rent expense, \$2,000; and salaries expense, \$20,000. Prepare the company's income statement for the year if Nature's Minerals has a calendar year-end.

Nature's Minerals	
Income Statement	
For the Year Ended December 31	
Revenue	\$75,000
Operating expenses:	
Salaries expense	\$20,000
Depletion expense	12,000
Rent expense	<u>2,000</u>
Total operating expenses	<u>34,000</u>
Net income	<u>\$41,000</u>

44. Mattress Co. has equipment with an original cost of \$40,000 and a building with an original cost of \$165,000. Both are depreciated using straight-line depreciation, with a 10-year useful life for the equipment and a 25-year useful life for the building. The equipment was purchased at the beginning of 20Y4, and the building was purchased at the beginning of 20Y5. Ignoring any other assets, prepare the Assets section of the company's December 31, 20Y9, balance sheet.

Mattress Co.
Balance Sheet
December 31, 20Y9

Assets

Property, plant, and equipment:		
Equipment	\$ 40,000	
Less accumulated depreciation	<u>24,000</u>	\$ 16,000
Building	\$165,000	
Less accumulated depreciation	<u>33,000</u>	<u>132,000</u>
Total property, plant, and equipment		<u><u>\$148,000</u></u>

45. AMC Inc. has the following account balances as of the calendar year-end before any adjusting entries are made: Equipment, \$15,750; Building, \$67,500; Accumulated Depreciation—Building, \$13,200; and Accumulated Depreciation—Equipment, \$2,200. The company then records adjusting entries for the equipment's \$2,000 depreciation expense for the year and the building's \$5,000 depreciation expense. The company purchased a patent for \$17,000 during the year and records amortization of \$3,000 for the year. Prepare the Assets section of the company's December 31 balance sheet, ignoring any other assets the company may have.

AMC Inc.		
Balance Sheet		
December 31		
Assets		
Property, plant, and equipment:		
Equipment	\$15,750	
Less accumulated depreciation	<u>4,200</u>	\$11,550
Building	\$67,500	
Less accumulated depreciation	<u>18,200</u>	<u>49,300</u>
Total property, plant, and equipment		\$60,850
Intangible assets:		
Patents		<u>14,000</u>
Total assets		<u>\$74,850</u>

Strategy: *Depreciation Expense is recorded as an operating expense on the income statement. All depreciation recorded to date for a particular asset is shown on the balance sheet under accumulated depreciation related to that asset. An asset is valued at its net book value, which is the cost less all accumulated depreciation.*

46. Using the information below, calculate the fixed asset turnover ratio for Mattress Co. for 20Y5 and 20Y6. Round answers to two decimal places. Is the change favorable or unfavorable?

	<u>20Y6</u>	<u>20Y5</u>
Sales	\$32,800	\$24,350
Fixed assets (net):		
Beginning of year	8,900	6,750
End of year	10,000	8,900
Average book value of fixed assets	9,450	7,825
Fixed asset turnover ratio	3.47	3.11
	(\$32,800 ÷ \$9,450)	(\$24,350 ÷ \$7,825)

The increase in the fixed asset turnover ratio is a favorable change for the company.

47. Nature's Minerals is hoping to improve its efficiency of using fixed assets to generate sales. Calculate the company's fixed asset turnover ratio for 20Y5 and 20Y6 using the information below. Round answers to two decimal places. Has the company met its goal of improving efficiency?

	<u>20Y6</u>	<u>20Y5</u>
Sales	\$175,600	\$177,200
Fixed assets (net):		
Beginning of year	54,750	56,200
End of year	60,300	54,750
Average book value of fixed assets	57,525	55,475
Fixed asset turnover ratio	3.05	3.19
	(\$175,600 ÷ \$57,525)	(\$177,200 ÷ \$55,475)

Since the fixed asset turnover ratio decreased, the company is not improving its efficiency of using fixed assets to generate sales.

48. Use the information below to calculate AMC Inc.'s fixed asset turnover ratio for 20Y5 and 20Y6. Round answers to two decimal places. Is the change in the ratio favorable or unfavorable for the company?

	<u>20Y6</u>	<u>20Y5</u>
Sales	\$ 65,780	\$ 62,000
Fixed assets (net):		
Beginning of year	16,355	16,100
End of year	17,100	16,355
Average book value of fixed assets	16,727.50	16,227.50
Fixed asset turnover ratio	3.93	3.82
	(\$65,780 ÷ \$16,727.50)	(\$62,000 ÷ \$16,227.50)

The increase in the fixed asset turnover ratio is favorable.

Strategy: To find the fixed asset turnover ratio, first calculate the average book value of fixed assets for the year. Next, divide the sales for the year by the average book value of assets. The fixed asset turnover ratio gives the dollar value in sales that the company is producing per dollar invested in fixed assets. If the ratio increases, the company is becoming more efficient in generating sales per dollar invested in fixed assets. If the ratio decreases, the company is generating less sales per dollar invested in fixed assets, which is unfavorable.