

20-1

Completing a Payroll Register

A **payroll register** is a record of the gross income, deductions, and net income of your company's employees. The payroll register may be kept on computer or by hand. Standard deductions include 6.2 percent of gross income for Social Security (SS) and 1.45 percent of gross income for Medicare. For federal income tax (FIT) refer to the tax tables on pages 170–173.

Example

Find the net pay.

David Sutter, a graphic designer, earns a gross weekly salary of \$650. Deductions include \$79 for FIT, 6.2 percent for Social Security (SS), 1.45 percent for Medicare, 2.5 percent for state tax, and \$24.00 for medical insurance. What is Sutter's net pay for the week?

- Find the Social Security, Medicare, and state tax deductions.
 $\$650 \times 6.2\% = \40.30 Social Security
 $\$650 \times 1.45\% = \9.43 Medicare
 $\$650 \times 2.5\% = \16.25 State tax
- Find the net pay.
 $\$650 - \$79 - \$40.30 - \$9.43 - \$16.25 - \$24 = \$481.02$ net pay

Practice

Find the total deductions and the net pay.

	Gross Pay	FIT	SS	Medicare	Total Ded.	Net Pay
1. Adair	\$520.00	\$55.00	\$32.24	\$7.54	a.	b.
2. Briscoe	495.00	60.00	30.69	7.18	a.	b.
3. Carey	647.00	86.00	40.11	9.38	a.	b.
4. Dickerson	318.00	24.00	19.72	4.61	a.	b.

Complete the payroll register.

Payroll Register for Fairview Insurance							Date: June 28, 20—		
Employee	FIT Information	Payment Method	Gross Pay	FIT	SS	Medicare	CIT	Total Ded.	Net Pay
5. Frable, K.	Married, 1 allowance	\$10.50/hr worked 35 hours	a.	b.	c.	d.	\$3.68	e.	f.
6. Grier, L.	Single, 0 allowance	\$448/week	a.	b.	c.	d.	6.72	e.	f.
7. Hedrick, M.	Married, 4 allowances	\$300/week + 2.5% of \$12,500 sales	a.	b.	c.	d.	7.66	e.	f.
8.	Total		a.	b.	c.	d.	18.06	e.	f.

- Standardized Test Practice** Audrey Stanis is married and claims one allowance for FIT. She has the following deductions taken from her weekly paycheck: FIT; Social Security; Medicare; 2.75 percent state tax; 1 percent local tax; and \$19.23 for health insurance. If her gross weekly income is \$500, what is her net weekly income?
A. \$364.77 **B.** \$394.77 **C.** \$377.77 **D.** \$368.02



20-2

Calculating Percentage of a Particular Business Expense

Keeping careful track of all your business expenses helps you calculate your company's profits and prepare your income tax forms. You can calculate your total expenses on a monthly, quarterly, or annual basis. To plan for future spending, you can calculate the percentage that each expense is of the total.

Example

Find the percentage of total expenses.

Sutter Design is a graphic design firm. Records for the company's expenses for December appear below. What percentage of total expenses did Sutter Design spend on utilities during December?

Payroll	\$ 8,950.00
Advertising	2,725.00
Computer Expense	5,714.29
Office Rent	1,185.00
Office Supplies	517.95
Insurance	1,846.89
Utilities	2,342.33
Total	23,281.46

Find the percentage of total expenses.

Percentage of Total = Particular Expense ÷ Total Expenses

$\$2,342.33 \div \$23,281.46 = 10.06\%$ of total expenses

Practice

Find the percentage of total expenses for each expense.

	Expense	Amount	Percentage of Total
1.	Payroll	\$19,574.75	
2.	Advertising	4,850.00	
3.	Office Rent	1,785.00	
4.	Office Supplies	972.58	
5.	Insurance	3,419.76	
6.	Utilities	5,123.52	

7. **Standardized Test Practice** Standard Insurance has 5 employees who each earn a monthly salary of \$2,500.00. Its other monthly expenses are as follows: taxes \$3,750.00; utilities \$2,689.00; office supplies \$642.51; rent \$1,395.00; and advertising \$639.00. What percentage of total monthly expenses did Standard Insurance spend on employee wages?

- A. 57.8% B. 17.3% C. 11.6% D. 21.5%

20-3

Determining the Department's Percent of Total Business Expense

When your **apportion** business expenses, you distribute them among various departments. Each department is charged a certain amount of the particular expense, which is often based on the amount of space the department occupies.

Example

Find the amount apportioned.

Sutter Design's utilities expenses last month were \$2,400, which it apportioned among its various departments based on the square footage each occupies. Sutter Design occupies a total of 2,000 square feet. The accounting department occupies a space measuring 20 feet by 25 feet. What amount of the utility expenses was apportioned to accounting?

1. Find the square footage occupied by accounting.

$$20 \text{ ft} \times 25 \text{ ft} = 500 \text{ square ft}$$

2. Find the amount accounting must pay.

$$\text{Amount Paid} = (\text{Square Feet Occupied} \div \text{Total Square Footage}) \times \text{Total Expense}$$

$$(500 \div 2,000) \times \$2,400 = \$600$$

Practice

Find the amount paid by each department.

	Department	Sq. Ft. Occupied	Total Sq. Footage	Total Expense	Amount Paid
1.	Production	25,000	125,000	\$30,600	
2.	Customer Service	30,000	125,000	30,600	
3.	Accounting	27,500	125,000	30,600	
4.	Shipping	42,500	125,000	30,600	

Smith's Strip Mall apportions expenses to its various tenants based on how much space each takes up in the mall. The total monthly security expense is \$6,500. The total area of the mall is 50,000 square feet. What does each of the following tenants pay for security?

	Tenant	Dimensions	Security Expense
5.	Takeout Haven	50 ft × 80 ft	
6.	The Beauty Salon	40 ft × 50 ft	
7.	Jeans and More	35 ft × 50 ft	

8. **Standardized Test Practice** Standard Insurance has a monthly rental expense of \$2,450, which it apportions among its various departments. The total area of the building is 1,600 square feet. The customer service department occupies a space measuring 15 feet by 20 feet. The sales department occupies a space measuring 20 feet by 25 feet. How much more rent does the sales department have to pay than the customer service department?

- A. \$200 B. \$459.38 C. \$765.63 D. \$306.25



20-4

Computing Depreciation Using the Straight-Line Method

The Internal Revenue Service allows you to recognize **depreciation**, the decrease in value of an item, as an expense for certain items that your business owns. One way of determining the annual depreciation of an item is the **straight-line method**, which assumes that the depreciation is the same from year to year. To calculate the depreciation of an item, you must know its original cost, its **estimated life**, and its **salvage value** (its worth at the end of its life).

Example

Find the annual depreciation.

Sutter Design purchased a new laser printer for \$2,920. The life of the printer is estimated to be 4 years, at which time its salvage value will be an estimated \$500. Using the straight-line method, what is the annual depreciation cost for the printer?

Find the annual depreciation.

$$\text{Annual Depreciation} = (\text{Original Cost} - \text{Salvage Value}) \div \text{Estimated Life}$$

$$(\$2,920 - \$500) \div 4 = \$605 \text{ annual depreciation}$$

Practice

Find the annual depreciation.

	Item	Original Cost	Salvage Value	Estimated Life	Annual Depreciation
1.	Dump Truck	\$30,000	\$1,000	8 years	
2.	Forklift	24,500	2,180	6 years	
3.	Wrapping Machine	8,575	530	4 years	
4.	Lawn Mower	3,728	650	10 years	

- Bill Robertson is a self-employed truck driver. He bought a new truck for \$49,650. After 5 years he estimates he can trade it in for \$8,200 cash. What is Robertson's annual depreciation cost?
- The Image Center bought a new MRI machine at a cost of \$2,462,000. After 4 years of use, it estimates the salvage value will be \$187,750. What is the annual depreciation of the MRI machine?
- Standardized Test Practice** Standard Insurance bought 5 new computers for \$1,152 each and a new printer for \$2,750. The salvage value of each computer is estimated to be \$375 after 3 years. The salvage value of the printer is estimated to be \$295 after 5 years. What is Standard Insurance's total annual depreciation?
A. \$750 **B.** \$1,295 **C.** \$491 **D.** \$1,786

20-5

Computing the Book Value Using the Straight-Line Method

The **book value** of an item is its approximate value after you have owned it and depreciated it for a period of time. The book value equals the original cost minus the **accumulated depreciation**, which is the total depreciation to date.

Example

Find the book value using the straight-line method.

Sutter Design bought a new laser printer for \$2,920. The life of the printer is estimated to be 4 years, at which time its salvage value will be an estimated \$500. The annual depreciation for the printer is \$605. What is the book value of the printer at the end of the third year?

1. Find the accumulated depreciation.

$$\text{Accumulated Depreciation} = \text{Previous Year's Accumulation} + \text{Current Year's Depreciation}$$

$$(2 \times \$605) + \$605 = \$1,815 \text{ accumulated depreciation}$$

2. Find the book value.

$$\text{Book Value} = \text{Original Cost} - \text{Accumulated Depreciation}$$

$$\$2,920 - \$1,815 = \$1,105 \text{ book value}$$

Practice

Find the depreciation and book value.

Complete the table below for a pickup truck that cost \$18,994 new. Its estimated life is 4 years, at which time its salvage value will be an estimated \$6,750.

	End of Year	Original Cost	Annual Depreciation	Accumulated Depreciation	Book Value
1.	1	\$18,994	a.	b.	c.
2.	2	18,994	a.	b.	c.
3.	3	18,994	a.	b.	c.
4.	4	18,994	a.	b.	c.

Spotless Cleaning bought 8 carpet cleaners for \$4,600 each. The cleaners have an estimated life of 3 years each, at which time the estimated salvage value of each will be \$625. Complete the depreciation table for Spotless Cleaning's carpet cleaners.

	End of Year	Original Cost	Annual Depreciation	Accumulated Depreciation	Book Value
5.	1	\$36,800	a.	b.	c.
6.	2	36,800	a.	b.	c.
7.	3	36,800	a.	b.	c.

8. **Standardized Test Practice** Standard Insurance bought a high-speed printer for \$2,750. It estimates the salvage value of the printer will be \$295 after 5 years of use. What is the book value of the printer at the end of the third year?

A. \$1,100 B. \$1,277 C. \$2,259 D. \$491



Computing Annual Depreciation and Book Value Using the MACRS System

Another method used for computing depreciation is the **modified accelerated cost recovery system** (MACRS). Under MACRS, assets can be depreciated fully over periods of 4, 6, 8, 11, 16, or 21 years, according to fixed percents. When working with MACRS, keep in mind that the book value is the approximate value of an item after you have owned it and depreciated it for a period of time.

Example

Find the book value using MACRS.

Sutter Design bought a new laser printer for \$2,920. MACRS allows printers to be fully depreciated in 4 years, according to 4 fixed percents: 30 percent the first year; 27.5 percent the second year; 22.5 percent the third year; and 20 percent the fourth year. What is the book value at the end of the third year?

1. Find the annual depreciation for the 1st, 2nd, and 3rd years.

Annual Depreciation = Original Cost × Fixed Percent

Annual Depreciation 1st Year = \$2,920 × 30% = \$876

Annual Depreciation 2nd Year = \$2,920 × 27.5% = \$803

Annual Depreciation 3rd Year = \$2,920 × 22.5% = \$657

2. Find the accumulated depreciation.

Accumulated Depreciation = Previous Year’s Accumulation + Current Year’s Depreciation

\$876 + \$803 + \$657 = \$2,336 accumulated depreciation

3. Find the book value.

Book Value = Original Cost – Accumulated Depreciation

\$2,920 – \$2,336 = \$584 book value

Practice

Use MACRS to find the annual depreciation rounded to the nearest cent.

		Year	1	2	3	4	5	6
Item	Cost	Percent	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%
1. Bus	\$65,000	Annual Deprec.	a.	b.	c.	d.	e.	f.
2. Forklift	37,500	Annual Deprec.	a.	b.	c.	d.	e.	f.
3. Van	28,385	Annual Deprec.	a.	b.	c.	d.	e.	f.
4. Computer	1,497	Annual Deprec.	a.	b.	c.	d.	e.	f.

5. **Standardized Test Practice** Standard Insurance bought a new printer for \$2,750. MACRS allows printers to be fully depreciated in 4 years, according to 4 fixed percents: 30 percent the first year; 27.5 percent the second year; 22.5 percent the third year; and 20 percent the fourth year. What is the book value at the end of the third year?

A. \$618.75 B. \$1,850.75 C. \$550.00 D. \$2,131.25

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Chapter Review—Book 'Em

Role Playing

In the real accounting world, you would apply what you have learned in this chapter to create journal entries. Keep this basic principle in mind when solving the following problems:

The sum of your debits must equal the sum of your credits.

1. Sheila LeMay is single and claims one allowance for federal tax purposes. Her gross annual salary is \$24,180. Deductions include \$61 for FIT, 6.2 percent for Social Security, 1.45 percent for Medicare, 3 percent for state tax, 1 percent for city tax, and \$26 for health insurance. Book the journal entry for LeMay's *weekly* payroll.

Account	Debit	Credit
Salary Expense (Gross Salary)	a.	
FIT Payable		b.
Social Security Payable		c.
Medicare Payable		d.
State Tax Payable		e.
City Tax Payable		f.
Health Insurance Payable		g.
Accrued Payroll Payable (Net Salary)		h.

2. LeMay's company apportions the monthly \$5,000 building maintenance fee among the various departments according to how much space each occupies. LeMay works in Customer Service, which occupies a space measuring 40 feet by 50 feet. The entire building covers 10,000 square feet. Book the journal entry for Customer Services' share of the maintenance expense.

Account	Debit	Credit
Maintenance Expense-Customer Service	a.	
Maintenance Expense Payable		b.

3. LeMay's company bought her a new computer for \$996. The company estimates she will use the computer for 4 years, at which time it will have a salvage value of \$200. Book the journal entry for the first year's depreciation using the straight-line method.

Account	Debit	Credit
Depreciation Expense	a.	
Accumulated Depreciation		b.

4. What is the book value of LeMay's computer at the end of the third year?
5. LeMay's company decides to use MACRS to calculate depreciation. MACRS allows computers to be fully depreciated in 6 years according to 6 fixed percents: 20 percent the first year, 32 percent the second year, 19.2 percent the third year, 11.52 percent the fourth and fifth years, and 5.76 percent the sixth year. What is the book value of LeMay's computer at the end of the third year, rounded to the nearest cent?