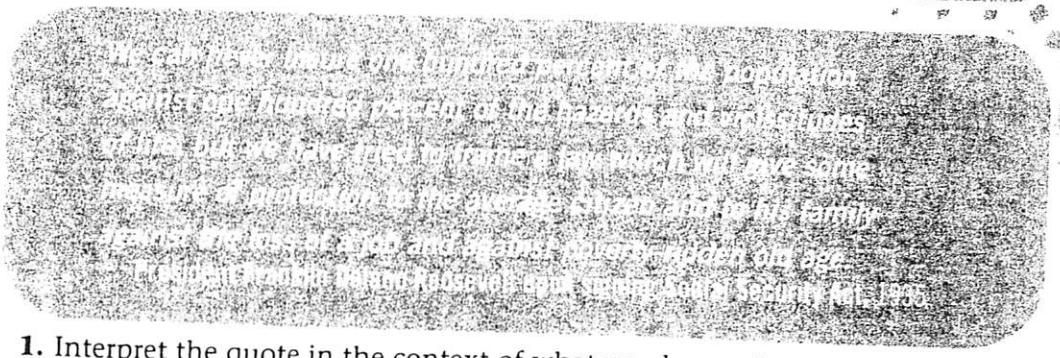
Applications



1. Interpret the quote in the context of what you know about American history and/or challenges facing senior citizens.

2. In 2008, the maximum taxable income for Social Security was $102,000 and the tax rate was 6.2%.
   a. What is the maximum Social Security tax anyone could have paid in the year 2008?
   b. Randy had two jobs in 2008. One employer paid him $67,010 and the other paid him $51,200. Each employer took out 6.2% for Social Security taxes. How much did Randy overpay for Social Security taxes in 2008?

3. In a certain year, the maximum taxable income for Social Security was x dollars and the tax rate was 6.2%.
   a. What is the maximum Social Security tax anyone could have paid in that year?
   b. Paul had two jobs that year. One employer paid him y dollars and the other paid him p dollars. His total income was greater than x. Each employer took out 6.2% for Social Security. Express the amount that Paul overpaid for Social Security taxes in that year algebraically.

4. In 1978, the amount of earnings required to earn one Social Security credit was $250. Thirty years later, in 2008, this amount was $1,050. What was the percent increase in the amount required to earn a credit, over this 30-year span?

5. Go to the Social Security website. What is the amount of earnings needed to earn one Social Security credit for the current year?

6. In 1980, the amount of earnings required to earn one Social Security credit was $290. Back then, Mike earned $55 per week. How many credits did he earn in 1980?

7. Stacy was a stay-at-home mom for most of her adult life. At age 46, she started working outside the home. Each year she earns the maximum number of Social Security credits. Until what age must she work to qualify to receive Social Security benefits when she retires?

8. Rachael turned 62 in 2007.
   a. Compute her Social Security full retirement benefit if her average monthly salary over her 35 highest-paying years was $3,100.
   b. If she starts collecting her benefit at age 66, what will her benefit be? Round to the nearest dollar.

The instructions for lines 10–18 use only lines from the worksheet. The instructions for each line guide Rob as he progresses.

10.	Enter: $12,000 if married filing jointly; $9,000 if single, head of household, qualifying widow(er), or married filing separately and you **lived apart** from your spouse for all of 2008	10.	$12,000.00
11.	Subtract line 10 from line 9. If zero or less, enter -0-	11.	$45,519.00
12.	Enter the **smaller** of line 9 or line 10	12.	$12,000.00
13.	Enter one-half of line 12	13.	$6,000.00
14.	Enter the **smaller** of line 2 or line 13	14.	$6,000.00
15.	Multiply line 11 by 85% (.85). If line 11 is zero, enter -0-	15.	$38,691.15
16.	Add lines 14 and 15	16.	$44,691.15
17.	Multiply line 1 by 85% (.85)	17.	$16,670.20
18.	**Taxable social security benefits.** Enter the **smaller** of line 16 or line 17. Also enter this amount on Form 1040, line 20b	18.	$16,670.20

Rob's taxable Social Security benefits are $16,670.20 as shown on line 18. Rob must enter this amount on his Form 1040 and pay taxes on that amount. He received $19,612 in Social Security benefits, but only had to pay income tax on $16,670.20 of that money.

■ CHECK YOUR UNDERSTANDING

Maria filled out a Social Security benefits worksheet. She received x dollars in Social Security benefits, but had to pay taxes on t dollars of it. Express the fraction of her Social Security income that she had to pay tax on as a percent.

Medicare Benefit

When you apply for Social Security, you may also apply to receive Medicare. Medicare has four parts. Part A is hospital insurance that helps pay for inpatient care in a hospital. Part B is medical insurance and helps pay for doctor's visits. Part C is Medicare advantage and is available in some areas. Part D is prescription drug coverage.

You must pay a monthly premium for Part B. In 2008 the standard premium was $96.40. The premium may be higher if your adjusted gross income is greater than $85,000.

EXAMPLE 6

Ryan has retired and is qualified to receive Medicare. In 2008, he paid the standard monthly premium. How much did he pay for the year?

SOLUTION Ryan paid 12 monthly premiums.

Multiply. $12 \times 96.40 = 1{,}156.80$

Ryan paid $1,156.80 in Medicare premiums for the year.

■ CHECK YOUR UNDERSTANDING

Claire has retired. She pays a Medicare Part B premium of p dollars per month. Express the total amount she spent on Medicare last year algebraically.

Reporting Social Security Benefits on Form 1040

If your total taxable income (wages, pensions, interest, dividends, and so on) plus any tax-exempt income, plus half of your Social Security benefits exceed $25,000 for singles, $32,000 for married couples filing jointly, or $0 for married couples filing separately, you will pay federal income tax on your benefits.

The taxable portion can range from 50% to 85% of your benefits. The numbers can change from year to year, and the government prints worksheets to help taxpayers compute the part of their Social Security benefit that is taxed.

EXAMPLE 5

Rob is 64 years old, and collected $19,612 in Social Security last year. He is married filing a joint return. On his Form 1040, the total of lines 7, 8a, 9a, 10 through 14, 15b, 16b, 17 through 19, and 21 is $80,433. Line 8b on his Form 1040 shows $519 and lines 23 to 32 on his Form 1040 total $1,239. Line 36 on his Form 1040 does not have an amount. What are Rob's taxable Social Security benefits for the year?

SOLUTION The Social Security Benefits Worksheet is used to determine the taxable benefit amount. It is not a form filed with your taxes. The worksheet is used to help you compute the part of the Social Security benefit that is taxed.

Rob starts filling out Form 1040 and gets to the line for Social Security benefits. He must now fill out the 18-line worksheet.

His Social Security benefit is entered on line 1.

Notice the information on lines 3 and 4 of the worksheet comes directly from the information given about Rob's Form 1040.

Line 6 also requires information from Rob's Form 1040.

Social Security Benefits Worksheet—Lines 20a and 20b

1. Enter the total amount from **box 5** of **all** your **Forms SSA-1099** and **Forms RRB-1099.** Also, enter this amount on Form 1040, line 20a 1. $19,612.00
2. Enter one-half of line 1 . . . . . 2. $9,806.00
3. Enter the total of the amounts from Form 1040, lines 7, 8a, 9a, 10 through 14, 15b, 16b, 17 through 19, and 21 . . . . . 3. $80,433.00
4. Enter the amount, if any, from Form 1040, line 8b 4. $519.00
5. Add lines 2, 3, and 4 . . . . . 5. $90,758.00
6. Enter the total of the amounts from Form 1040, lines 23 through 32, plus any write-in adjustments you entered on the dotted line next to line 36 . . . . . 6. $1,239.00
7. Is the amount on line 6 less than the amount on line 5?
   - ☐ No. STOP None of your social security benefits are taxable. Enter -0- on Form 1040, line 20b.
   - ☒ Yes. Subtract line 6 from line 5 . . . . . 7. $89,519.00
8. If you are:
   - Married filing jointly, enter $32,000
   - Single, head of household, qualifying widow(er), or married filing separately and you **lived apart** from your spouse for all of 2008, enter $25,000
   - Married filing separately and you lived with your spouse at any time in 2008, skip lines 8 through 15; multiply line 7 by 85% (.85) and enter the result on line 16. Then go to line 17

   . . . . . 8. $32,000.00
9. Is the amount on line 8 less than the amount on line 7?
   - ☐ No. STOP None of your social security benefits are taxable. Enter -0- on Form 1040, line 20b. If you are married filing separately and you **lived apart** from your spouse for all of 2008, be sure you entered "D" to the right of the word "benefits" on line 20a.
   - ☒ Yes. Subtract line 8 from line 7 . . . . . 9. $57,519.00

SOLUTION Marissa was born in 1945 and turned 62 in 2007. For people turning 62 in 2007, the formula for computing Social Security benefits is

- 90% of the first $680 of monthly earnings
- 32% of the monthly earnings between $680 and $4,100
- 15% of the earnings over $4,100

Marissa's monthly earnings were $2,300.

Find 90% of the first $680.	$0.90 \times 680 = 612$
Subtract to find the earnings over $680.	$2{,}300 - 680 = 1{,}620$
Find 32% of $1,620 by multiplying.	$0.32 \times 1{,}620 = 518.40$
Find the sum of $612 and $518.40.	$612 + 518.40 = 1{,}130.40$

Marissa's monthly full retirement benefit at age 67 is $1,130.40.

■ **CHECK YOUR UNDERSTANDING**

Ron reached age 62 in 2007. His monthly adjusted earnings were x dollars, where $x > \$4{,}100$. Express his monthly benefit algebraically.

EXAMPLE 4

Marissa from Example 3 retired at age 65. What will her monthly benefit be, since she did not wait until age 67 to receive full retirement benefits?

SOLUTION Age 67 is considered to be full retirement age if you were born in 1945. If you start collecting Social Security before age 67, your full retirement benefit is reduced, according to the following schedule.

- If you start at collecting benefits at 62, the reduction is about 30%.
- If you start at collecting benefits at 63, the reduction is about 25%.
- If you start at collecting benefits at 64, the reduction is about 20%.
- If you start at collecting benefits at 65, the reduction is about 13.3%.
- If you start at collecting benefits at 66, the reduction is about 6.7%.

Marissa's full retirement benefit was $1,130.40. Since she retired at age 65, the benefit will be reduced about 13.3%.

Find 13.3% of $1,130.40, and round to the nearest cent.

$$0.133 \times 1{,}130.40 \approx 150.34$$

Subtract to find the benefit Marissa would receive.

$$1{,}130.40 - 150.34 = 980.06$$

Marissa's benefit would be about $980.06.

■ **CHECK YOUR UNDERSTANDING**

Find the difference between Marissa's monthly benefit if she retires at age 62 instead of age 67.

Social Security Credits

Your **Social Security statement** is a record of the money you earned every year. You get a certain number of credits each working year. It includes the number of **Social Security credits** you have earned. You can earn a maximum of four credits for each year. Before 1978, employers reported earnings every three months or quarter. You earned one credit for each quarter in which you earned a specific amount of money. Since 1978, employers report earnings once a year and credits are based on your total wages and self-employment income during the year, no matter when you did the actual work. You might work all year to earn four credits, or you might earn enough for all four in a shorter length of time. The amount of earnings it takes to earn a credit changes each year. In 2009, you must earn $1,090 in covered earnings to get one credit. People born after 1929 need 40 credits in their lifetime to qualify for Social Security benefits.

EXAMPLE 2

Fran requests her annual Social Security statement from the Social Security Administration each year. She wants to check how many Social Security credits she received for 2009. She worked all year and earned $8,102 per month. How many credits did she earn in 2009?

SOLUTION Fran goes to the Social Security website. To earn a credit in 2009, she needed to earn at least $1,090. To earn the maximum 4 credits, Fran needed to earn 4 times the amount for one credit anytime during the year.

$$4 \times 1{,}090 = 4{,}360$$

Fran earned over $8,102 in one month, which is greater than $4,360, so her statement should show that she earned 4 credits for the year. Keep track of your credits carefully.

■ **CHECK YOUR UNDERSTANDING**

Beth earned $5,600 working part-time during the first half of the year in 2009. She then left for college and didn't work. How many Social Security credits did she receive?

Social Security Benefit

Your Social Security benefit is based on the 35 highest years of earnings throughout your lifetime. The earnings are adjusted for inflation—earning $5,000 in 1955 is not like earning $5,000 today. The adjusted earnings are used to find the average adjusted monthly earnings. Keep in mind that benefit computations can change, and you must be sure to keep up to date on how your particular benefit will be computed.

EXAMPLE 3

Marissa reached age 62 in 2007. She did not retire until years later. Over her life, she earned an average of $2,300 per month after her earnings were adjusted for inflation. What is her Social Security full retirement benefit?

When you get close to retirement age, you will be concerned with the benefits these services provide—benefits that you contributed to over your entire working career. The money that is taken out of your paycheck for Social Security is paying for the benefits of the people who are currently receiving them. Your benefits will be paid by the people who are working when you are receiving the benefits.

Social Security benefits are based on your earnings over your working lifetime. Benefits can start as early as age 62, but are reduced. People born after 1960 must wait to start collecting their full retirement benefit until age 67, their **full retirement age**.

You can keep track of every year's earnings by requesting a Social Security statement each year from the IRS. Compare the entries on the form to your W-2 each year. Be sure keep the copies on file.

Skills and Strategies

Here you will be introduced to some of the details on how Social Security works. When you get close to retirement, you will want to read lots of material on the rules and procedures involved.

EXAMPLE 1

In 2009, Jose had two jobs. He earned \$73,440 working at a nursing home the first 8 months. He switched jobs in September and began to work in a hospital, where he earned \$42,566. How much Social Security tax did he overpay?

SOLUTION In 2009, the maximum taxable income for Social Security taxes was \$106,800. Each of Jose's employers took out the required 6.2% for Social Security. The nursing home took out 6.2% of \$73,440.

$$0.062 \times 73{,}440 = 4{,}553.28$$

The hospital took out 6.2% of \$42,565.

$$0.062 \times 42{,}565 = 2{,}639.03$$

Jose adds to find the total he paid into Social Security in 2009.

$$4{,}553.28 + 2{,}639.03 = 7{,}192.31$$

The two employers withheld \$7,192.31 in Social Security taxes in 2009. This is too much tax. The maximum an individual should have paid in 2009 was 6.2% of \$106,800, which equals \$6,621.60. Subtract to find out how much Jose overpaid.

$$7{,}192.31 - 6{,}621.60 = 570.71$$

Jose overpaid \$570.71 and needs to fill out a line on his Form 1040 to claim a refund of this amount. Notice that this is not a refund of federal income tax. It is a refund of overpaid FICA tax.

CHECK YOUR UNDERSTANDING

Monique had two employers in 2007. Both employers took out 6.2% Social Security tax. The maximum taxable income was \$97,500. Monique earned x dollars at one job and y dollars at her second job, and $x + y > 97{,}500$. Express her refund algebraically.

Social Security Benefits 9-2

Key Terms

- **Old-Age, Survivors, and Disability Insurance (OASDI)**
- **Social Security benefit**
- **full retirement age**
- **Social Security statement**
- **Social Security credit**

Objectives

- Understand the benefits paid by Social Security.
- Understand how benefits are computed.
- Compute federal income tax on benefits that are paid under Social Security.

How does the government help me finance my retirement?

There are many expenses involved in maintaining a comfortable, healthy lifestyle when you are not working. Being prepared to meet these challenges requires careful and early planning. In addition to your own savings plans, the government has an insurance program that helps workers in their retirement by providing financial assistance.

After the stock market crash of 1929, the United States entered a period of very harsh economic times. Millions of people were unemployed; banks and businesses failed, and the elderly had trouble paying expenses just to survive. These circumstances led to the Social Security Act of 1935. This act created an insurance program that paid workers benefits after they retired.

In Chapters 6 and 7 you learned about paying Social Security and Medicare taxes. Social Security taxes fund [illegible]. This insurance pays benefits to retired workers that help them meet their financial obligations. It also provides benefits to families of retired workers and disabled workers under certain conditions. Medicare taxes fund a health insurance program that provides benefits to people over age 65 and to some disabled persons under 65. It helps pay for doctor's costs, hospital costs, and prescription drugs.

Younger employees are usually more concerned with these programs because they are funded through taxes taken out of employee paychecks. There is a maximum amount of earnings subject to Social Security taxes. This maximum holds no matter how many jobs you have—it is a per-person maximum for the year.

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Step 2: Find the annual premium. (See **Figure 10.6** on page 393.)

Find the column, Wood Frame.

Find the Fire Protection Class 1–6 column.

Find the Amount of Insurance Coverage row with 120,000.

Follow across the row and down the column to where 120,000 and 1–6 meet.

= **$476 annual premium**

Concept CHECK

Find the (a) amount of coverage and (b) annual insurance premium using Figure 10.6 on page 393. Check your answer in the back of the book.

1. The replacement cost of Jalese Chiara's brick home is $200,000. It is insured at 75% of its replacement value. The home is in fire protection class 11.

Lesson Practice

For Problems 2 and 3, find (a) the amount of coverage and (b) the annual insurance premium. Use Figure 10.6 on page 393.

2. The Campbells own a $150,000 wood-frame house. It is in fire protection class 8, and they insured it for 100% of its replacement value.
3. Kuen Yee owns a $400,000 brick home in fire protection class 11 that is insured for 75% of its replacement value.
4. The Quicks own a brick home that has a replacement value of $375,000. They purchased a homeowners policy for 80% of its replacement value. They live in an area rated fire protection class 9. **(a)** What is the annual policy premium? **(b)** What would the annual policy premium be if they were in class 11?

H.O.T. Problems

5. **CHALLENGE PROBLEM** Gary Penn owns a $150,000 brick home. He insures it for 100% of its replacement value. His rate of assessment is 35%, his tax rate is 51.58 mills, and his fire protection is rated class 6. He has a $120,000.00 mortgage at 8% for 20 years. How much is the monthly payment for the **(a)** mortgage, **(b)** real estate taxes, **(c)** insurance, and **(d)** total monthly payment?

Spiral Review

Round to the nearest thousandth. (Skill 2)

6. 0.1245 **7.** 7.21973 **8.** 456.25478

9. **ALGEBRA** Donald Houston can save $55 on a new microwave if he buys it on sale. The store has marked down the microwave 45%. What is its regular price? (Lesson 6.6)

GET READY for the Next Lesson

PREREQUISITE SKILL Adding Decimals (Skill 5)

Add.

10. 28.4 + 73.2 + 221.88 **11.** 98.34 + 17.626 **12.** 191.34 + 58.177 + 2.03

LESSON 10.7

Homeowners Insurance Premium

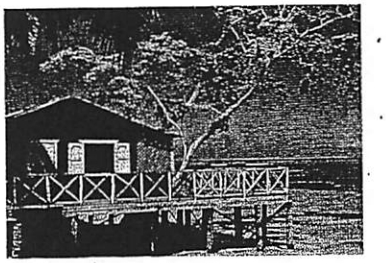
Lesson Objective
Calculate the annual homeowners insurance premium.

Content Vocabulary
- premium
- fire protection class

GET READY for the Lesson

How much does it cost to insure a home?

Ashley and Tim Huggins are buying their first home, and they want to make sure that they purchase adequate insurance coverage. They meet with several insurance agents.



As You Read
Summarize
What is a premium?

Homeowners Insurance Premium The important considerations when buying a home, as they say in real estate, are location, location, location. Your location even **affects** your homeowners policy **premium**—the amount you must pay for insurance coverage. Also, the type of house (brick, masonry, veneer, or wood frame) and the amount of coverage affect your premium. The insurance company will assign your home a number that reflects how fire resistant it is and how close you are to a water source. This number is called your **fire protection class**.

Figure 10.6

Homeowners Insurance Premiums

Amount of Insurance Coverage	Annual Premiums for a Typical Homeowners Policy									
	Brick/Masonry Veneer					Wood Frame				
	Fire Protection Class					Fire Protection Class				
	1–6	7–8	9	10	11	1–6	7–8	9	10	11
$ 80,000	$ 301	$ 310	$ 410	$ 429	$ 493	$ 321	$ 331	$ 429	$ 454	$ 519
90,000	335	345	456	480	551	361	370	480	504	580
100,000	373	384	509	533	613	400	411	533	561	644
120,000	443	455	605	635	730	476	489	635	668	768
150,000	574	589	781	821	944	616	633	821	865	993
200,000	770	791	1,051	1,105	1,271	828	850	1,105	1,164	1,338
250,000	921	943	1,201	1,276	1,459	975	998	1,276	1,358	1,554
300,000	1,099	1,126	1,434	1,523	1,743	1,164	1,191	1,523	1,619	1,854
400,000	1,276	1,306	1,664	1,766	2,021	1,334	1,381	1,766	1,880	2,154
500,000	1,636	1,675	2,134	2,265	2,593	1,731	1,773	2,265	2,411	2,761

EXAMPLE

The replacement value of Marcia Syke's home is $150,000, and she has insured it for 80% of its replacement value. The home is of wood-frame construction and has been rated in fire protection class 4. What is the amount of **(a)** coverage and **(b)** annual premium?

Step 1: Find the amount of coverage.

Replacement Value of Home × Insured Percent of Replacement Value

$150,000 × 80% = **$120,000 coverage**

Continued on next page

Study Tip

Write Your Own Questions

Write and solve your own word problems as you study. Use the practice problems in the book as models.

EXAMPLE

Joy and Ron Amodeo estimate the replacement value of their home at $194,000. They have insured the home for 80% of its replacement value. According to the preceding guidelines and using **Figure 10.5** on page 391, what is the amount of coverage on the Amodeos' personal property?

Step 1: Find the amount of coverage on the home.

Replacement Value × Insured Percent

$194,000 × 80% = $155,200 coverage on home

Step 2: Find the amount of coverage on personal property.

Amount of Coverage on Home × Percent Covered

$155,200 × 50% = **$77,600 coverage on personal property**

Concept CHECK

Complete the problems. Check your answers in the back of the book.

Assume that Tilda and Nolan Wendt insure their home for 90% of its replacement value of $320,000, or $288,000. Using the percents from **Figure 10.5** on page 391, find the coverage for the following.

1. Personal property
2. Loss of use
3. Garage

Lesson Practice

For Problems 4–8, use Figure 10.5 on page 391 for the percent of coverage to determine the (a) amount of insurance on the home, (b) amount of coverage for the garage, (c) amount of coverage for loss of use, and (d) amount of coverage for personal property.

4. Replacement value: $270,000; coverage: 80%.
5. Replacement value: $405,000; coverage: 100%.
6. Replacement value: $538,500; coverage: 90%.
7. Replacement value: $324,000; coverage: 90%.
8. Replacement value: $324,000; coverage: 80%.

H.O.T. Problems

9. **WRITING** Write a brief paragraph that compares the answers for Problem 7 to those for Problem 8.

Spiral Review

Find the percent. (Skill 30)

10. 10% of 90,000
11. 80% of 30,000
12. 75% of 140,000
13. **ALGEBRA** Amber Hawke estimates that she will drive 12,000 miles during the year and will have $2,200 in annual vehicle-related fixed costs. If her goal is to have a cost per mile of $0.36 or less for her compact car, what is the maximum annual variable cost she can have? (Lesson 9.5)

GET READY for the Next Lesson

PREREQUISITE SKILL Finding the Percentage (Skill 30)

Find the percentage.

14. 60% of 24,000
15. 55% of 13,400
16. 94% of 45,300

LESSON 10.6

Homeowners Insurance

Lesson Objective
Determine the amount of coverage for homeowners insurance.

Content Vocabulary
- homeowners insurance
- property damage coverage
- personal liability coverage
- medical coverage
- loss-of-use coverage
- replacement value

As You Read
Explain What is the replacement value of a home?

GET READY for the Lesson

Why would you need to insure your home?

A forest fire destroyed Randy and Connie Silver's home. They managed to save some family mementoes and important papers but lost everything else. They were overwhelmed by the expense of rebuilding their home.

Homeowners Insurance When you are a homeowner, you will need to buy **homeowners insurance** to provide financial protection against various losses. Basic coverage included in a homeowners insurance policy includes four kinds of coverage:

Property damage coverage pays for damage to the home and personal property such as computers, furniture, and clothing. Fire, windstorm, rain, lightning, and so on may cause the damage. The homeowner must purchase special coverage for damage caused by flooding. **Personal liability coverage** protects you as a homeowner if someone alleges that your negligence caused her or him bodily injury or property damage. For example, if a neighbor falls off the deck of your house and breaks a leg, personal liability will protect you from financial losses. **Medical coverage** pays for medical expenses for nonfamily members accidently injured on your property. It does not matter who is at fault. **Loss-of-use coverage** pays for the expenses for living away from home while your damaged home is being repaired.

To **recover** full payment for any loss up to the amount of the policy, you must insure your home for at least 80% of its replacement value. **Replacement value** is the amount required to reconstruct your home if it is destroyed. To calculate the minimum amount of coverage, use the formula:

Amount of Coverage on Home = Replacement Value × Insured Percent

Figure 10.5

Coverage	Percent Covered
Garage and other structures	10%
Loss of use	20%
Personal property	50%

Insurance companies use the amount of coverage on your home to calculate the amount of coverage you receive on a detached garage, personal property, and for loss of use.

To calculate the amount of coverage for each type of protection, use the formula:

Amount of Coverage = Amount of Coverage on Home × Percent Covered

Step 2: Find how much she can save.

$(12 \times \$79.69) - \$937.50 =$

$\$956.28 - \$937.50 = \$18.78$ amount saved

Concept CHECK

Determine how much can be saved by paying annually. (Refer to Figure 11.3 and Figure 11.4.) Check your answers in the back of the book.

3. A 20-year-old male has a $100,000 whole life policy paid monthly.
4. A 40-year-old female has a $150,000 paid up at age 65 policy that she pays quarterly.

Did You Know?

Staying in Shape Studies conducted by scientists from the National Institute on Aging suggest that a healthy diet and exercise can combat obesity, which may increase life expectancy.

Lesson Practice

Use Figure 11.3 and Figure 11.4 to solve.

	Type	Gender	Age	Face Value	Number of Units	Cost per $1,000	Annual Premium	Monthly Premium
5.	Whole Life	Female	20	$ 50,000	a.	b.	c.	d.
6.	Paid at 65	Male	30	$120,000	a.	b.	c.	d.
7.	Paid at 65	Female	35	$200,000	a.	b.	c.	d.
8.	Whole Life	Male	45	$200,000	a.	b.	c.	d.

9. Forty-year old Ann Gosik's policy is a "whole life" for $50,000. **(a)** What is her annual premium? **(b)** What is her semi-annual premium?
10. James Dolby, 20 years old, has a $50,000 policy that is "paid up at age 65." **(a)** What is his annual premium? **(b)** What is his quarterly premium?
11. Robert and Lucy Dubbs each purchase a $100,000 whole life insurance policy. Both are 25 years of age. What are their total annual premiums? How much more is Robert Dubbs's annual premium than his wife's?

H.O.T. Problems

12. **CHALLENGE** Leona Sowinski purchased a $50,000 universal life insurance policy at the age of 20. What is her annual premium? If Leona pays $150 a month, how much is she saving annually?

Spiral Review

Multiply or Divide. Round answers to the nearest hundredth. (Skill 8, 11)

13. $18.4 \div 0.032$
14. 0.31×0.84
15. 7.81×8.1

16. **ALGEBRA** Double Impressions charges 9¢ a page for machine fed copies and 21¢ per page for copies that are placed by hand on the copy machine. If your bill for 120 copies is $19.44, how many copies of each type were made? (Lesson 1.4)

GET READY for the Next Lesson

PREREQUISITE SKILL Rounding Numbers (Skill 2)

Round to the nearest ten.

17. 84
18. 15
19. 221
20. 336

Step 2: Find the premium per $1,000. (Refer to **Figure 11.3.**)

Whole Life, Female, Age 25 = $7.50

Step 3: Find the annual premium.

Number of Units Purchased × Premium per $1,000

125 × 7.50 = **$937.50 annual premium**

Figure 11.3

Annual Premiums per $1,000 of Life Insurance					Monthly Premium
Age	Paid Up at Age 65		Whole Life		$50,000 Universal Life
	Male	Female	Male	Female	Male or Female
20	$11.75	$ 9.75	$ 8.00	$ 6.25	$ 19.00
25	$13.75	$11.50	$ 9.50	$ 7.50	$ 24.00
30	$17.00	$14.50	$11.75	$ 9.25	$ 29.00
35	$21.50	$18.00	$15.00	$11.50	$ 37.50
40	$29.75	$25.00	$19.50	$14.50	$ 52.00
45	$39.50	$32.50	$25.50	$18.75	$ 69.50
50	$56.25	$45.75	$34.00	$24.25	$ 93.50
55			$46.50	$32.25	$126.00

Concept CHECK

Find the annual premium. Check your answers in the back of the book.

1. A 30-year-old male obtains a $70,000 whole life policy.
2. A 40-old female obtains a limited payment policy until age 65 of $90,000.

Figure 11.4

Optional Payment Plans		
Percent of Annual Premium		
Semi-annual Premiums	=	50.5%
Quarterly Premiums	=	25.5%
Monthly Premiums	=	8.5%

Payment Plans Many insurance companies will allow you to make smaller payments several times a year, rather than one annual payment. A small fee is charged to cover the additional expense of collecting and handling the payments. Many companies use the guidelines shown in **Figure 11.4.**

Reading Math

Glossary and Index

Use the glossary in the back of the book to check the definition of important terms. Use the index to cross check other references to the term.

EXAMPLE 2

Suppose Phyllis Saul (from **Example 1**) wants to pay the $937.50 annual premium monthly. What are her monthly payments? How much can she save in one year by paying the premium annually?

Step 1: Find the monthly premium. (Note: Refer to **Figure 11.4** for percent of monthly premium.)

Annual Premium × 8.5%

$937.50 × 0.085 = $79.6875 = **$79.69** monthly premium

LESSON 11.4

Other Types of Life Insurance

Lesson Objective
Apply tables to data to compute the annual premiums for three types of life insurance.

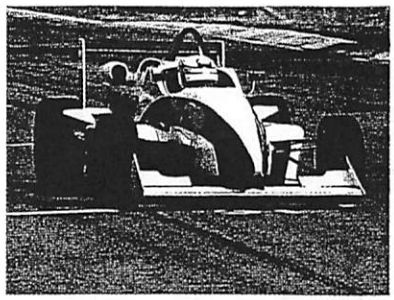
Content Vocabulary
- whole life insurance
- cash value
- limited payment policy
- universal life insurance

As You Read
Identify What factors affect the amount of the premium?

GET READY for the Lesson

How does risk affect insurance?

Marlon Fuentes is healthy and his family has no history of disease. However, he drives a race car for a living.



Life Insurance Policies **Whole life insurance**, also known as permanent insurance, offers financial protection for your entire life. You pay a specific premium for the entire **duration** of the policy. When you die, the insurance company pays your beneficiary a declared sum. The amount of the premium depends on your age, the condition of your health and your smoking habits at the time when you purchase the policy. Some insurance companies require a physical examination by a physician to see if you qualify for a policy.

A whole life insurance policy provides your beneficiary financial coverage, and it can also be used as an investment. In addition to the face value that your beneficiary will receive, whole life insurance has a **cash value** and *loan value.* The cash value is the amount of money you will receive if you cancel your policy. Think of whole life insurance as both a death benefit and a savings account. You can borrow money on the policy and then pay interest on the loan. The insurance company will lend you the same amount as the cash value, if you request it.

Insurance companies offer many different types of whole life insurance policies. Two common ones are a **limited payment policy** and **universal life insurance.** A limited payment policy offers lifetime protection. You pay premiums only for a limited number of years or until you reach a certain age, such as a "paid up at age 65" policy. Universal life insurance is a combination of a life insurance policy and a savings plan. The policy covers you for your entire life. Part of your premium goes into an investment account that grows and earns interest. You are able to borrow or withdraw your cash value. Annual premiums are calculated using the following formula:

Annual Premium = Number of Units Purchased × Premium per $1,000

Need Help? Go to...
- Skill 11: Dividing Decimals, p. SK12
- Skill 8: Multiplying Decimals, p. SK9
- **Application C:** Tables and Charts, p. AP3

EXAMPLE 1

Phyllis Saul is 25 years old. She wants to purchase a whole life policy with a face value of $125,000. What is her annual premium?

Step 1: Find the number of units purchased.

$$\frac{125{,}000}{1{,}000} = 125 \text{ units purchased}$$

Continued on next page

Did You Know?

Women and Life Insurance A historic law passed by New York in 1840 gave women equal protection to men concerning life-insurance policies. Before then, no U.S. woman could have her own policy, and in the case of a husband's death his creditors were entitled to funds before his wife and children.

Lesson Practice

For Problems 5–14, determine (a) number of units, (b) annual premium per $1,000, and (c) annual premium. Use Figure 11.2 on page 425.

	Insured	Age	Coverage	Number of Units	Annual Premium per $1,000	Annual Premium
5.	Lianna Torrez	20	$ 60,000	a.	b.	c.
6.	John O'Neill	45	$ 85,000	a.	b.	c.
7.	Kate Owens	35	$ 95,000	a.	b.	c.
8.	Debra Green	50	$200,000	a.	b.	c.

For Problems 9 and 10, determine the annual premium.

9. Joni Hauck wants to purchase a $65,000, 5-year term life insurance policy. She is 25 years old.

10. Paul Barojas wants to purchase a $105,000, 5-year term life insurance policy. He is 25 years old.

For Problems 11 and 12, determine the percent increase in the premium.

11. Phil Davis purchased a $75,000, 5-year term life insurance policy when he was 40. Now he is 45.

12. Marica Deerfoot purchased a $120,000, 5-year term life insurance policy when she was 55. Now she is 60.

13. Peter and Edith Lichtner have a child. Peter is a 30-year old career counselor, and Edith is a 25-year old child psychologist. Both want to purchase $80,000, 5-year term life insurance policies. What is Edith's annual premium? What is Peter's annual premium?

H.O.T. Problems

14. CHALLENGE PROBLEM Sam and Kolleen Hastings have two children. Sam was 30 years old when he first purchased a $125,000, 5-year term life insurance policy. He is now 35 years old and decides to increase the policy to $200,000.

(a) What is his new annual premium?

(b) What is his new monthly premium?

(c) What total amount did he pay during the previous 5-year term?

(d) What total amount will he pay for the next 5-year term?

Spiral Review

Multiply or Divide. Round answers to the nearest thousandth. (Skill 8)

15. 76.26 ÷ 0.14 **16.** 1.025 ÷ 0.05 **17.** 34.362 × 100 **18.** 0.95 × 0.16

19. ALGEBRA Your current job pays a monthly gross salary of $1,860. You are offered a new position that pays $9.60 per hour with time and a half for all hours over 40 per week. How many hours of overtime per week would you need to work to earn the same amount per week as in your current job? (Lesson 1.5)

GET READY for the Next Lesson

PREREQUISITE SKILL Multiplying Decimals (Skill 8)

Multiply. Round answers to the nearest hundredth.

20. 1.43 × 0.57 **21.** 0.072 × 6.42 **22.** 5.31 × 0.213

23. 21.93 × 0.72 **24.** 3.045 × 0.04 **25.** 6.751 × 1.51

Figure 11.2

Annual Premiums per $1,000 of Life Insurance: 5-Year Term*		
Age	Male	Female
18–30	$ 3.21	$ 2.77
35	$ 3.51	$ 2.98
40	$ 4.25	$ 3.47
45	$ 5.42	$ 4.60
50	$ 7.59	$ 6.27
55	$11.45	$ 8.58
60	$17.19	$12.62
*Minimum amount is $50,000		

Reading Math +−÷=

Charts

When you look at a chart, think about the story it tells. **Figure 11.2** gives three factors to consider when determining a premium: age, gender, and the amount of life insurance purchased.

Concept CHECK

Use Figure 11.2 to complete the problems. Check your answers in the back of the book.

Find the annual premium for a 5-year term policy.

1. An eighteen-year-old female purchases a $50,000, 5-year term policy. What is the annual premium?
2. A forty-five-year-old male purchases a $60,000, 5-year term policy. What is the annual premium?

EXAMPLE 2

Maria Rita Gomez purchased an $80,000, 5-year term policy at age 30. She will be 35 years old this year. What will the annual premium be at age 35? What was the annual premium at age 30? How much is the increase? What is the percent increase?

Step 1: Find the number of units purchased.

$$\frac{80{,}000}{1{,}000} = 80 \text{ units purchased}$$

Step 2: Find premium at age 35.

$80 \times 2.98 = \$238.40$ **annual premium at 35**

Step 3: Find premium at age 30.

$80 \times 2.77 = \$221.60$ **annual premium at 30**

Step 4: Find the increase.

$238.40 - \$221.60 = \$16.80$ **increase**

Step 5: Find the percent increase.

$$\frac{\text{Increase}}{\text{Original Amount}} = \frac{16.80}{221.60} = 0.075812 = \textbf{7.6\% increase}$$

Concept CHECK

Use Figure 11.2 to find the percent increase in premiums. Check your answer in the back of the book.

3. At age 40, Julie Johnson purchases a $60,000, 5-year term policy. She is now 45 years old.
4. Harold McDonough at age 55 purchases a $100,000, 5-year term policy. He is now 60 years old.

LESSON 11.3

Term Life Insurance

Lesson Objective
Utilize tables to compute the annual premium for term life insurance.

Content Vocabulary
- life insurance
- term life insurance
- beneficiary

GET READY for the Lesson

Why should young adults have life insurance?

Dylan Hughes once thought he had no need for life insurance. But when his first child was born, Dylan worried about how his family would get by if something were to happen to him.

As You Read
Explain What is life insurance?

Term Life Insurance When the main source of income of a family dies, what happens financially? For a family with children, it is the **classic** case of financial setback. **Life insurance**, however, can soften the financial blow. This is financial protection for the family in case the main source of income dies.

Term life insurance is the least expensive form of life insurance that you can purchase. You buy term life insurance for a specified term, such as five years, or to a specified age. Unless you renew your policy at the end of each term, the insurance coverage ends.

The annual premium depends on your age at the time you buy the policy and the number of *units*. One unit of insurance has a face value of $1,000. The annual premium for term life insurance usually increases with each new term.

The annual premium is computed using the following formula:

Annual Premium = Number of Units Purchased × Premium per $1,000

The person whose name is on the policy chooses a **beneficiary**. The beneficiary will receive the *face value* of the policy. The face value is the amount of insurance coverage that you buy.

Figure 11.2 shows the premiums per $1,000 for a 5-year term policy. The rates are lower for females because statistically they have a longer life expectancy.

Need Help? Go to...
- Skill 11: Dividing Decimals, p. SK12
- Skill 8: Multiplying Decimals, p. SK9
- Application C: Tables and Charts, p. AP3

EXAMPLE 1

Kenny Calloway is 30 years old. He wants to purchase a $50,000, 5-year term life insurance policy. What is his annual premium?

Step 1: Find the number of units purchased.

$$\frac{50{,}000}{1{,}000} = 50 \text{ units purchased}$$

Step 2: Find the premium per $1,000.

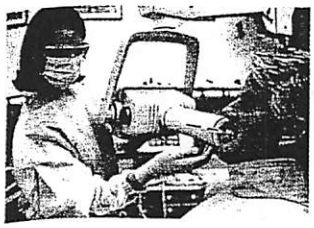
Refer to **Figure 11.2**. Read the table.

Male, age 30 = $3.21

Step 3: Find the annual premium.

Number of Units Purchased × Premium per $1,000

50 × $3.21 = **$160.50 annual premium**



Did You Know?

Neolithic Dentistry
Scientists using an electron microscope to study 9,000-year-old teeth from a graveyard in present-day Pakistan found evidence of dental work. The research indicates that a drill made of flint heads was "surprisingly effective" at removing rotting dental tissue, and that the technique was used for about 1,500 years.

For Problems 11 and 12, find the (a) deductible, (b) co-payment amount, (c) hospital charges, and (d) total paid by the insured. (Use Figure 11.1 on page 421.)

11. Sofia Carbondale has a network single plan. After meeting her annual deductible, she had these co-payments: 18 physician visits, 15 specialist visits, and 15 physical therapy visits at $90 each. Sofia also had 1 emergency room visit and a hospital charge of $24,560.

12. After meeting the family's deductible, Jacobi Duarte had the following family, non-network medical bills: 22 physician visits, 12 specialist visits, 25 physical therapy appointments at $95 each, 8 generic local drug prescriptions, and 4 mail-in prescriptions for 3 generic drugs and 1 brand-name drug. Hospital charges totaled $55,600 plus an emergency room visit.

13. Tom Buell is single and has a health insurance plan with the benefits shown in **Figure 11.1** on page 421. After meeting his annual deductible, his recent network health care costs include co-payments for 4 physician visits and 5 specialist visits. He made co-payments for 4 non-network physical therapy visits at $125 each. He had 3 co-payments at his local pharmacy, for one generic and 2 brand-name drugs. His hospital admission charge was $150 and his hospital bill was $18,750. What amount did he pay?

14. Emily Ward is married and has a non-network family health insurance plan with the benefits shown in **Figure 11.1** on page 421. Her recent non-network health care costs include 5 physician visits and 2 specialist visits. She made co-payments for 6 physical therapy visits at $110 each. Emily had one ambulance trip to the emergency room and a subsequent hospital bill of $14,680. Emily has no deductible. What amount did she pay?

H.O.T. Problems

15. CHALLENGE PROBLEM Wanda Orsini broke her leg playing basketball. She has the family network insurance plan with the benefits shown in **Figure 11.1** on page 421. After meeting her annual deductible, her health care costs include co-payments for 9 physician visits, 12 orthopedic bone specialist visits, and hospital costs of $52,940. She had 40 physical therapy visits at $60 each. Wanda's hospital admission charge was $200. There was an ER charge and an ambulance charge. She also had 8 generic local drug prescriptions and 4 mail-in prescriptions for 2 generic drugs and 2 brand-name drugs. Find her total charges.

Reading Math +−÷=

Read With Pen and Paper

When a word problem contains a lot of information, such as problem 15, read it several times. Make a list of the key information you need to solve.

Spiral Review

Subtract. (Skill 4)

16. 978 − 865 **17.** 77,521 − 66,842 **18.** 997,341 − 942,876

19. ALGEBRA Rob Glover's group medical coverage costs $178.45 per month. His employer pays 65% of the cost. How much is the annual premium for Rob's health insurance? (Lesson 2.5)

GET READY for the Next Lesson

PREREQUISITE SKILL Dividing Decimals (Skill 11)

Divide. Round answers to the nearest thousandth.

20. 72.84 ÷ 2.41 **21.** 23.97 ÷ 5.942 **22.** 42.158 ÷ 7.66

23. 186.4 ÷ 55.726 **24.** 646.9 ÷ 19.547 **25.** 238.007 ÷ 84.593

SPREADSHEET APPLICATION

Health Insurance Benefits

You can use a spreadsheet like the partial one below to determine your total health care charges. You will enter the number of visits or cost for network or non-network care, and the spreadsheet will calculate the total cost.

Math Online Go to glencoe.com to download the spreadsheet application.

	A	B	C	D	E	F	G	H
1	Health Care Benefits Schedule							
2			Network	No. of visits cost	Subtotal	Non-Network*	No. of visits cost	Subtotal
3	Annual Deductible	Single	$1,000		0.00	$1,500		$0

Think and Discuss

1. Determine a family's network plan costs. The family had the following co-payments: 24 physician visits, 8 specialist visits, 25 physical therapy appointments at $90 each, and 2 emergency room visits. There were also these pharmacy charges: 7 local generic drugs, 2 local brand-name drugs, 5 mail-order generic drugs, and 1 mail-order brand-name drug. There is also a hospital charge of $19,260. Hint: In cell E13 enter: *=25*90*
2. How much would they have saved if they had purchased all generic instead of brand-name drugs?
3. Determine the Weston family's non-network costs. They had the following co-payments: 5 physician visits, 2 specialist visits, 10 physical therapy appointments at $75 each, and 1 emergency room visit. They also had the following pharmacy charges: 2 local generic, 2 local brand name drugs, 3 mail order generic, and 1 mail order brand name. There is also a hospital charge of $8,113. Hint: In the physical therapy cell, enter: *=10*75*
4. How much would the Weston family have saved if they had used the network plan?

Lesson Practice

For Problems 3–10, find the (a) co-payments, (b) co-insurance, and (c) total paid by insured.

	Deductible Amount	Number of Co-payments at $10.00 Each	Amount of the Co-payments	Amount Subject to Co-insurance	Insured Co-insurance Rate	Amount of Co-insurance	Total Paid by Insured
3.	$3,000	25	a.	$12,000	20%	b.	c.
4.	$2,000	40	a.	$34,600	30%	b.	c.
5.	$3,500	52	a.	$16,980	15%	b.	c.
6.	$6,000	32	a.	$66,540	10%	b.	c.
7.	$5,000	30	a.	$45,000	15%	b.	c.
8.	$2,500	50	a.	$25,000	25%	b.	c.
9.	$4,000	35	a.	$37,500	20%	b.	c.
10.	$4,500	25	a.	$22,500	30%	b.	c.

Step 1: Find the deductible.

The deductible is $1,000.

Step 2: Find the cost of the co-payments.

Physician + Specialist + Physical Therapy + Pharmacy

$(20 \times 8) + (30 \times 9) + (85 \times 20\% \times 12) + [(3 \times 10) + 20] =$

$160 + 270 + 204 + 50 = \$684$

Step 3: Find the hospital co-insurance charges. (Note: The patient pays 10% of the hospital charge and 100% of the admission charge.)

$(34{,}560 \times 10\%) + 200 = \$3{,}456 + 200 = \$3{,}656$

Step 4: Find the total amount paid by patient.

Deductible + Co-payments + Co-insurance Amount + Hospital Charges

$1{,}000 + 684 + 3{,}656 =$ **$5,340 total paid**

Figure 11.1

Health Care Benefits Schedule

		Network	Non-Network*
Annual Deductible	Single	$1,000	$1,500
	Family	$3,000	$4,500
Hospital Charges	—	10%**	30%**
Co-insurance/ Co-payments	Physician visit	$ 20	$ 30
	Specialist visit	$ 30	$ 40
	Physical Therapy	20%**	30%**
Retail Pharmacy	Generic	$ 10	
	Brand-Name	$ 20	
Mail-Order Pharmacy (90 day supply)	Generic	$ 25	
	Brand-Name	$ 50	
	Emergency Room-ER	$ 100	$ 100
	Ambulance	$ 100	$ 100

*Non-Network refers to a health care provider who does not have a contract with the health plan administrator.

**Percent of total cost that you must pay.

Concept CHECK

Using Figure 11.1, complete the problems. Check your answers in the back of the book.

1. Determine your network plan costs with the following co-payments: 7 physician visits, 2 specialist visits, 12 physical therapy appointments at $90 each. You also have the following pharmacy charges: 2 local generic drugs, 1 local brand-name drug, 3 mail-order generic drugs and 1 mail-order brand-name drug. You have no hospital charges and no deductible.
2. Determine a family's network plan costs with the following co-payments: 22 physician visits, 12 specialist visits, 15 physical therapy appointments at $80 each, and 1 emergency room visit plus ambulance fee. The family also had the following pharmacy charges: 9 local generic drugs, 4 local brand-name drugs, 6 mail-order generic drugs, and 2 mail-order brand-name drugs. There was also a hospital charge of $9,260. The family already met its annual deductible.

LESSON 11.2

Health Insurance Benefits

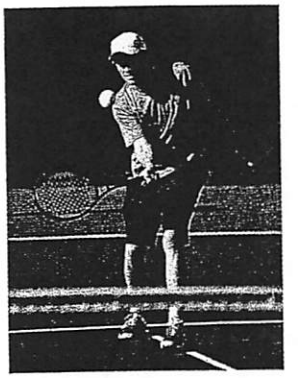
Lesson Objective
Calculate the amount the patient pays for health care.

Content Vocabulary
- deductible
- co-insurance
- co-payment

GET READY for the Lesson

How might exercising regularly lower medical costs?

Jason Olsen's employer encourages employees to exercise by offering a 50% discount off membership to a local gym. For the employer, this expense saves money over time because healthy employees are less likely to have expensive hospital visits.



As You Read
Describe What is a co-payment?

Health Insurance Benefits Just because you have health insurance does not mean all medical procedures are covered. In fact, the insurance plan and the state you live in determine the services provided. For example, you might have difficulty securing health insurance to cover weight loss and pre-existing conditions such as congenital heart disease.

Many health insurance policies have an **annual deductible,** which is the amount of money you must pay each year before your insurance company starts paying. Some health care services also have a **co-payment** clause or a **co-insurance** clause. This requires you to pay either a set amount or a certain percent of medical expenses, including prescription drugs.

For example, you might have a $10 co-payment for visiting the doctor regardless of the type of service provided. A 20% co-insurance clause means your insurance company pays 80% of the cost and you pay 20% of the cost. The following formula is used to calculate the amount the patient pays:

$$\text{Amount Paid by Patient} = \text{Deductible} + \text{Co-payments} + \text{Co-insurance Amount} + \text{Hospital Charges}$$

Need Help? Go to...
- Skill 4: Subtracting Whole Numbers, p. SK5
- Skill 30: Finding the Percentage, p. SK31

EXAMPLE

Brooke Kolodie is single and has a health insurance plan with the benefits shown in **Figure 11.1**. After meeting her $1,000 deductible, her recent network health care costs include co-payments for 8 physician visits and 9 specialist visits. Following hospital surgery, she made co-payments for 12 physical therapy visits at $85 each and she had 4 co-payments at her local pharmacy, for 3 generic drugs and 1 brand-name drug. Her hospital admission charge was $200 and her hospital bill was $34,560. What amount did she pay?

Continued on next page

Study Tip

Read Twice

The first time you read through a lesson, look for the main ideas. Look for details on the second time through.

11. Kelli Lenz has a family plan. Her HMO premium is $16,850. Her employer pays 65% of the cost. **(a)** How much does Kelli pay annually? **(b)** How much is deducted from her semimonthly paycheck?
12. Luisa Hernandez has a family membership in her company's traditional group medical insurance program. The total cost is $12,988 annually and the employer pays 75% of the total cost. She also pays the optional annual dental premium of $980 and the optional vision premium of $324. Her contribution is deducted biweekly from her paycheck. **(a)** How much is her total annual contribution? **(b)** How much is her biweekly deduction?
13. Boris Heban is single and pays into an HMO. The total cost is $8,190 annually, and the employer pays 90% of the total cost. Boris also pays 50% of the optional annual dental premium of $662 and 50% of the optional annual vision premium of $288. How much is deducted each week from his paycheck?
14. Rachel and Dustin Lutts are self-employed photographers. They pay 100% of the PPO insurance premium of $12,640 annually. They also have a dental plan that costs $866 annually and a vision plan that costs $444 annually. The premiums are paid quarterly. How much do they pay each quarter?

H.O.T. Problems

15. **CHALLENGE PROBLEM** Placido Lucero is retired and covered by Medicare Parts A & B. His retirement plan covers 75% of his Medicare HMO annual premium of $4,200. His retirement plan also covers 50% of his wife's Medicare HMO annual premium of $4,200. Also, Placido has a dependent grandchild whose HMO annual premium of $3,600 is 40% covered by his retirement plan. What is the monthly amount deducted from Placido's retirement check for health care?

Spiral Review

Find the percent. (Skill 30)

16. What percent of $60 is $3?
17. What percent of $150 is $60?
18. What percent of $475 is $95?
19. What percent of $210.00 is $73.50?
20. **ALGEBRA** The Westmarks expected the automatic withdrawal of their natural gas bill to be more than last month's bill of $154.65 but did not know by how much. Their account showed a previous balance of $445.28, cleared checks totaling $316.79, an automatic deposit of $300, and interest earned of $2.56. If the Westmarks' new balance was $228.58, by how much did this month's natural gas bill exceed last month's bill? (Lesson 4.4)

GET READY for the Next Lesson

PREREQUISITE SKILL Subtracting Whole Numbers (Skill 4)

Subtract.

21. 642 − 195
22. 2,692 − 867
23. 33,579 − 19,668
24. 213,535 − 187,950
25. 678,876 − 39,691
26. 967,852 − 753,918

Need Help? Go to...

- **Workshop 7:** Dividing Decimals, p. 16
- Skill 30: Finding the Percentage, p. SK31
- **Application K:** Chronological Expressions, p. AP7

Step 1: Find the employee's percent.

100% − 80% = 20% employee's percent

Step 2: Find the employee's annual contribution.

Total Premium × Employee's Percent

$11,880.00 × 20% = **$2,376.00 employee's annual contribution**

Step 3: Find the employee's monthly deduction.

$$\frac{\text{Employee's Contribution}}{12}$$

$$\frac{\$2,376.00}{12} = \textbf{\$198.00 employee's monthly deduction}$$

100 − 80 = 20

11880 × 20 % 2376 ÷ 12 = 198

Concept CHECK

Complete the problems. Find the (a) employee's total annual contribution and (b) employee's monthly deduction. Check your answers in the back of the book.

1. Dorsey Williams has a single plan. His PPO annual premium is $4,325. His employer pays 65%.
2. Rubina Shaw has a family plan. Her HMO annual premium is $11,473. Her employer pays 73%.

Clinical Laboratory Technologist

Technologists play a crucial role in fighting diseases. They perform complex tests to detect microorganisms, test chemical reactions, and match blood samples for transfusions. **As a class, brainstorm careers in the medical field.**

Math Online

For more information, go to **glencoe.com.**

Lesson Practice

For Problems 3–7, find the (a) employee's percent, (b) employee's contribution, and (c) monthly premium.

	Insurance Plan	Annual Premium	Employer's Percent	Employee's Percent	Employee's Contribution	Monthly Premium
3.	Single PPO	$ 4,980	60%	a.	b.	c.
4.	Single HMO	$ 4,368	80%	a.	b.	c.
5.	Family Trad.	$10,666	75%	a.	b.	c.
6.	Family HMO	$12,540	85%	a.	b.	c.
7.	Family PPO	$14,600	75%	a.	b.	c.

8. Sing-Chi Chow has a single plan. The PPO annual premium is $12,436. The employer pays 85% of the cost. **(a)** How much does Sing-Chi pay annually? **(b)** How much is deducted from his weekly paycheck?
9. Lance Alpern has a single plan. The HMO annual premium is $9,255. His employer pays 70% of the cost. **(a)** How much does Lance pay annually? **(b)** How much is deducted from his weekly paycheck?
10. Darrell Morris has a family plan. The HMO annual premium is $12,240. The employer pays 90% of the cost. **(a)** How much is Darrell's annual contribution? **(b)** How much is his semimonthly deduction?

LESSON 11.1

Health Insurance Premiums

Lesson Objective
Compute health insurance premiums.

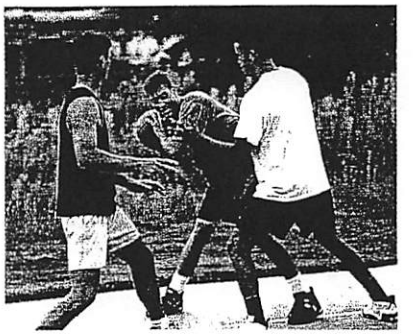
Content Vocabulary
- health insurance
- traditional plan
- preferred provider organization (PPO)
- health maintenance organization (HMO)

As You Read
Identify What is the purpose of health insurance?

GET READY for the Lesson

Do young, healthy people really need health insurance?

André Batista regularly plays basketball with his friends. Last week, he hurt his ankle and had to go to the hospital. André wondered how much the treatment would cost.



Determining Health Insurance Premiums An accident or illness could take away your income, deplete your savings, and leave you in debt. Just as important as vehicle insurance is **health insurance**. It protects *you* against overwhelming medical expenses.

Many types of health care coverage plans exist. We will focus on just three group health insurance plans: a **traditional plan**, a **preferred provider organization** (PPO), and a **health maintenance organization** (HMO).

A traditional plan offers health care coverage where the health care provider is paid a predetermined dollar amount for the service given. You may use any health care provider.

A PPO is a group of selected health care providers who offer **comprehensive** services at preset reimbursement levels. You are required to use these "network" providers (that is, a selected group of doctors) unless you are willing to pay additional costs to non-network providers.

An HMO is a prepaid health plan in which care providers contract with (or are) employees of the HMO. You may select a "primary care" physician and agree to receive all non-specialist and non-emergency services from that physician. The physician may refer you to a specialist (an obstetrician, a psychiatrist, or a cardiologist, for example).

Often the employer pays 75% to 80% of the premiums and the employee pays the remaining 20% to 25% in the form of a payroll deduction. The health insurance premium you pay is determined by the following formulas:

$$\text{Employee's Percent} = 100\% - \text{Employer's Percent}$$

$$\text{Employee's Contribution} = \text{Total Premium} \times \text{Employee's Percent}$$

EXAMPLE

Sean Derricotte has a family membership in a group medical insurance program. The annual premium is $11,880. Sean's employer pays 80% of the total cost. His contribution is deducted monthly from his paycheck. What is Sean's annual contribution? What is his monthly deduction?

Continued on next page

Did You Know?

Favorite Vehicle Colors According to a recent survey, silver was the most popular automobile color in North America for five years in a row, covering 26% of vehicles.

H.O.T. Problems

8. Deon Hanson uses his silver minivan primarily for business. He has 300/300 bodily injury and $100,000 property damage coverage. Because of his business use, his driver-rating factor is 3.35. His vehicle is classified B, 15.
9. Magdalena Castillo uses her SUV mainly for pleasure. She has 100/300 bodily injury and $50,000 property damage coverage. Her driver-rating factor is 2.15, and her SUV is classified as C, 15.
10. Carl Adams uses his minivan to deliver office supplies. He has 100/200 bodily injury and $50,000 property damage coverage. Because of the business use of his van, his driver-rating factor is 3.10. His van is classified as D, 14.
11. **CHALLENGE PROBLEM** Ned Bishop delivers firewood to retail outlets in his truck. His driver-rating factor is 3.15. His insurance coverage includes 25/100 bodily injury and $25,000 property damage. He has $50-deductible comprehensive and $50-deductible collision. His truck is in age group D and insurance-rating group 10. Calculate his annual **(a)** base premium and **(b)** premium and then **(c)** his annual premium if he gets a 20% discount by increasing his deductible to $200.
12. **CHALLENGE PROBLEM** Pamela Kruse drives to and from work in her red sports car. Her driver-rating factor is 4.85. Her insurance coverage includes 100/200 bodily injury and $100,000 property damage. She has $50-deductible comprehensive and $50-deductible collision coverage. Her car is in age group A and insurance-rating group 13. How much more will her annual premium be if she increases the liability coverage to 300/300/100?

Spiral Review

Multiply. (Skill 8)

13. 1.25×79.90
14. 2.40×360
15. 3.90×67.70
16. Ona Scully's charge account statement showed a previous balance of $523.94, a finance charge of $8.96, new purchases of $154.21, $34.28, and $75.21, a credit of $45.16, and a $250.00 payment. What is her new balance? (Lesson 7.1)
17. **ALGEBRA** Matthew Epstein sells appliances. He receives weekly pay on a straight commission of 5% on sales up to $5,000 and 6% on sales over $5,000. One week Matthew had a gross pay of $652. What was his sales total for that week? (Lesson 1.7)

GET READY for the Next Lesson

PREREQUISITE SKILL Dividing (Decimal Remainder) (Skill 10)

Divide. Round answers to the nearest hundredth.

18. $751 \div 305$
19. $846 \div 120$
20. $688 \div 321$
21. $5{,}489 \div 294$
22. $776 \div 492$
23. $963 \div 3{,}500$

Step 1: Find the annual base premium.

Liability Premium	+	Collision Premium	+	Comprehensive Premium		
$344	+	$300	+	$113	=	$757 annual basic premium

Step 2: Find the annual premium.

Base Premium	×	Driver-Rating Factor		
$757.00	×	2.20	=	$1,665.40 annual premium

344 + 300 + 113 = 757 × 2.2 = 1665.40

Concept CHECK

Use Figure 9.3 on page 351 to find the (a) annual base premium and (b) annual premium. Check your answers in the back of the book.

1. Fran Nader's insurance covers bodily injury 25/100 and $100,000 property damage. It has a $50-deductible comprehensive and a $50-deductible collision. Her car is in age group C and insurance-rating group 10 (or C, 10), and her driver-rating factor is 1.50.

Reading Math

Words for Time Periods
Remember that *annual* means "once yearly."

Lesson Practice

For Problems 2–10, determine the (a) annual base premium and (b) the annual premium. Use Figure 9.3 on page 351 for insurance premiums. All policies have a $50 deductible for both comprehensive and collision.

2. Pierce Keenan has a 1.30 driver-rating factor and his car is in age group A and insurance-rating group 14. The coverage he wants is 50/100 bodily injury and $25,000 for property damage.
3. Danielle Cecil's driver-rating factor is 1.60 and her car is in age group D and insurance-rating group 12. She wants 100/300 bodily injury and $50,000 property damage coverage.
4. Marcy Kirkpatrick uses her vehicle primarily for pleasure. She has 100/200 bodily injury and $25,000 property damage coverage. Because of her excellent driving record, her driver-rating factor is 1.00. Her vehicle is classified as D, 14.
5. Jill Wilson uses her vehicle primarily for pleasure. She has 100/300 bodily injury, and $50,000 property damage coverage. Because of her excellent driving record, her driver-rating factor is 1.00. Her vehicle is classified as A, 14.
6. Samuel Haskins uses his minivan primarily for his delivery business. He has 100/300 bodily injury, and $100,000 property damage coverage. Because of his business use, his driver-rating factor is 3.55. His vehicle is classified A, 15.
7. Ruby Mason uses her sports car mainly for pleasure. She has 100/200 bodily injury, and $100,000 property damage coverage. Her driver-rating factor is 2.65 and her sports car is classified as B, 15.

The **annual premium** is the amount you pay each year for insurance coverage. These factors determine your annual premium:

1. The cost of the *annual base premium,* which depends on the amount and type of coverage you carry.
2. The *driver-rating factor,* which depends on your age, marital status, number of miles you drive each week, whether you drive a long distance to work, and if you use your vehicle for pleasure or business.

If several people drive your vehicle, the insurance company uses the highest driver-rating factor among them to determine the annual premium. Insurance companies use tables to determine your basic premium. You use these two formulas to determine the annual premium:

$$\text{Annual Base Premium} = \text{Liability Premium} + \text{Collision Premium} + \text{Comprehensive Premium}$$

$$\text{Annual Premium} = \text{Annual Base Premium} \times \text{Driver-Rating Factor}$$

EXAMPLE

Della Welch is the principal operator of her vehicle. Her driver-rating factor is 2.20. Her insurance includes 50/100 bodily injury and $50,000 property damage. Her vehicle is in age group A and insurance-rating group 13 (or A, 13). She has $50-deductible comprehensive and $50-deductible collision insurance. What is her annual base premium? What is her annual premium? Use **Figure 9.3** to find insurance rates.

Figure 9.3

Annual Liability Premium

Property Damage Limits	Bodily Injury Limits					
	25/50	25/100	50/100	100/200	100/300	300/300
$ 25,000	$299	$319	$309	$365	$374	$416
50,000	307	326	344	374	383	425
100,000	464	338	357	386	394	437

Collision and Comprehensive Premium

Coverage	Age Group	Insurance Rating Group					
		10	11	12	13	14	15
Collision $50 Deductible	A	$236	$257	$279	$300	$322	$343
	B	224	243	264	284	305	325
	C	213	233	253	272	291	310
	D	203	222	240	259	277	296
Comprehensive $50 Deductible	A	$80	$86	$99	$113	$127	$142
	B	68	82	94	107	121	134
	C	65	77	90	102	115	129
	D	62	73	86	97	110	122

Continued on next page

LESSON 9.4

Vehicle Insurance

Lesson Objective
Use tables to compute the annual premium for vehicle insurance.

Content Vocabulary
- liability insurance
- collision insurance
- comprehensive insurance
- deductible clause
- annual premium

As You Read
Explain How does vehicle insurance protect drivers?

GET READY for the Lesson

Why does a car owner need insurance?

Judy Watson's car hit another car. She was glad she had good insurance when she found out how much the repairs would cost.

Buying Vehicle Insurance If your vehicle is involved in an accident, it can cause bodily **injury** to the people involved, property damage to other vehicles or property, such as light poles, and collision damage to your vehicle. Vehicle owners carry insurance to cover the costs associated with an accident.

Liability insurance coverage provides financial protection to the policyholder against claims for bodily injury and property damage as a result of an accident. The combined coverage is often listed as 100/300/50. The 100/300 refers to the bodily injury coverage and means:

The insurance company will pay up to **$100,000** to any *one person injured.* → 100/300 ← The insurance company pays up to **$300,000** if *more than one* person is injured.

The *50* refers to a property damage limit of $50,000.

In addition to liability insurance, you also will need to consider carrying two other types of insurance on your vehicle. **Collision insurance** pays for damage to the insured vehicle caused by a collision with another motor vehicle or an object such as a telephone pole. **Comprehensive insurance** pays for damage to the insured vehicle from losses due to fire, vandalism, theft, and just about any cause other than a collision.

Both collision and comprehensive insurance may have a **deductible clause**. This is a clause in an insurance policy that requires the insured to pay a certain amount to cover repairs before the insurance company pays. For example, if your insurance policy states that you have a $500-deductible clause, this means that you pay the first $500 of the repair bill. If your total repair bill is $4,400, you have to pay $500 and the insurance company pays the remaining amount ($3,900 in this example).

The annual *base premium* determines the cost of your vehicle insurance. It involves three factors:
- the amount of insurance you carry,
- how old your vehicle is, and
- the insurance-rating group depending on the size and value of your vehicle.