Problem Solving Skills: Exploring Insurance

Use after Lesson 6-3

Life insurance is a contract to pay a specific amount of money, called the **face value,** to a designated person, called the **beneficiary,** upon the death of the policy owner. A person whose death would create financial difficulty to the family should have life insurance.

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

Whole life insurance offers financial protection for your entire life, as well as a way to invest. You pay the same amount throughout your life. When you die, the insurance pays the beneficiary the face value. Whole life also has a **cash value** and a **loan value.** The cash value is the amount of money you will receive if you cancel the policy. The loan value is the amount you can borrow against the policy.

Limited payment insurance is similar to whole life insurance. However, with limited payment insurance, you pay only for a specific number of years or until you reach a certain age.

The yearly amount you pay for insurance is called the **premium.** The premium depends on the type of insurance, your age, your gender, and the face value.

Problem Solving Strategies

- Guess and check
- Look for a pattern
- Solve a simpler problem
- Make a table, chart or list
- Use a picture, diagram or model
- Act it out
- Work backwards
- Eliminate possibilities
- ✔ Use an equation or formula

Annual Premiums per $1000 of Life Insurance

	5-Year Term Life		Whole Life		Paid Up at Age 65	
Age	Male	Female	Male	Female	Male	Female
20	$2.47	$2.13	$8.00	$6.25	$11.75	$9.75
25	$2.47	$2.13	$9.50	$7.50	$13.75	$11.50
30	$2.47	$2.13	$11.75	$9.25	$17.00	$14.50
35	$2.70	$2.29	$15.00	$11.50	$21.50	$18.00
40	$3.27	$2.67	$19.50	$14.50	$29.75	$25.00
45	$4.17	$3.54	$25.50	$18.75	$39.50	$32.50
50	$5.84	$4.82	$34.00	$24.25	$56.25	$45.75

PROBLEM

Jasmine is 25 years old and wants to buy whole life insurance.

a. Write an equation for the premium p for an insurance policy with face value v.

b. Use the equation to determine the premium if the face value of the policy is $50,000.

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Solve the Problem

a. Using the table, the annual premium per $1000 for a 25-year-old female is $7.50. The equation for the premium is $p = 7.50\left(\frac{v}{1000}\right)$.

b. $p = 7.50\left(\frac{v}{1000}\right)$

$= 7.50\left(\frac{50,000}{1000}\right)$ The face value of the policy is $50,000.

$= 375$

Jasmine's annual premiums will be $375.

PRACTICE EXERCISES

1. Gregory is 40 years old and has children who depend on his income. He wants to buy term life insurance with a face value of $250,000. Find his yearly premium.

2. Ms. Smith is 50 years old. She wants to buy $80,000 of limited pay insurance to age 65. What is her yearly premium?

3. Mrs. Villa is 35 years old and wants to buy life insurance with a face value of $200,000. Find the yearly premium for term life, whole life, and limited pay to age 65.

4. Christine is 40 years old. She wants to buy limited pay insurance to age 65. Write an equation for the premium p with face value v. Then graph the equation.

5. Mr. Brooks is 30 years old. He wants to buy $300,000 of life insurance. How much will he save if he pays premiums for 5 years of term insurance rather than if he pays whole-life premiums for 5 years? How much will Mr. Brooks have if he invests the money he saved at an annual interest of 5% compounded daily for 30 years?

6. Tom can budget $270 per year to buy life insurance. If he is 35 years old, how much whole life insurance can he buy? How much term life insurance can he buy?

7. Mr. and Mrs. Cole have decided to buy $150,000 term life insurance for each of them. If they are both 30 years old, find the total of the yearly premiums. How much more will they spend on the policy for Mr. Cole than for Mrs. Cole?

8. Whole life insurance for a female who is 25 years old costs $7.50 per $1000 of face value. What is the premium for a face value of $250,000?

9. Term life insurance for a male who is 35 years old costs $2.70 per $1000 of face value. What is the premium for a face value of $175,000?

Lesson C **Problem Solving Skills: Exploring Insurance**