



SKILL 16: PROBLEM SOLVING: Interest

When money is borrowed or invested, interest is paid or earned on the money. **Simple interest** is computed using the formula below. The **principal** is the amount of money borrowed or invested. The **rate** is the percent of interest per year. The length of time the money is borrowed or invested is expressed in years.

$$\text{Interest} = \text{Principal} \times \text{Rate} \times \text{Time}$$

$$I = p \times r \times t$$

Example

The Math Club deposited \$288 in a savings account for 6 months. If the money earns simple interest at the rate of 8%, how much interest will the club receive after 6 months?

Read The principal is \$288, the rate is 8%, and the time is 6 months (0.5 year).

Plan Use the simple interest formula: $I = p \times r \times t$.

$$I = 288 \times 8\% \times 0.5 \quad \text{Substitute the values into the formula.}$$

Solve $I = 288 \times 0.08 \times 0.5$ Write the percent as a decimal or a fraction.

$$I = 11.52 \quad \text{Multiply.}$$

The Math Club will receive \$11.52 in interest.

Look Back Estimate the product: $300 \times 0.1 \times 0.5 = 300 \times 0.05 = 15$.
The answer makes sense.

Guided Practice

1. Angie borrowed \$400 from her parents at 6.5% simple interest for 3 years. What is the total amount Angie must repay?

a. Give these values: $p =$ _____ $r =$ _____ $t =$ _____

b. Find the interest: $I = p \times r \times t =$ _____ \times _____ \times _____ $=$ _____

c. Angie will repay the principal plus interest. How much will she repay? _____ $+$ _____ $=$ _____

2. Julian invested \$2,000 at 4% simple interest. How much is his investment worth after $1\frac{1}{2}$ years?

a. Simple interest: $I = p \times r \times t =$ _____ \times _____ \times _____ $=$ _____

b. Principal + Interest $=$ _____ $+$ _____ $=$ _____