

Reteaching 6-8

Simple and Compound Interest

Simple Interest

Alicia put \$200 in a savings account to earn interest. The interest rate is 5% per year. How much interest will the account earn in $2\frac{1}{2}$ years?

Use this formula to solve:

$$\text{Interest} = \text{principal} \cdot \text{rate} \cdot \text{time in years}$$

$$I = p \cdot r \cdot t$$

$$= 200 \cdot 0.05 \cdot 2.5$$

$$= 25$$

In $2\frac{1}{2}$ years, the account will earn \$25 in interest.

Compound Interest

Alex put \$500 in an account that earns 6% interest, compounded annually. What will be the account balance after $2\frac{1}{2}$ years?

Use this formula to solve:

$$\text{Balance} = \text{principal} \cdot (1 + \text{rate})^{\text{time in years}}$$

$$B = p(1 + r)^t$$

Use a calculator to evaluate:

$$B = 500(1 + 0.06)^{2.5}$$

$$500 \times 1.06^{2.5} = 578.41$$

The balance will be \$578.41.

Find the interest earned in each account.

1. \$300 at 5% simple interest for 1 year

\$15

2. \$300 at 5% simple interest for 2 years

\$30

3. \$500 at 8% simple interest for 2 years

\$80

4. \$1,000 at 6% simple interest for 3 years

\$180

5. \$1,200 at 4.5% simple interest for 3 years

\$162

6. \$950 at $5\frac{1}{2}\%$ simple interest for 6 years

\$313.5

Find the final balance in each account.

7. \$800 at 4% compounded annually for 3 years

\$899.89

8. \$1,200 at 5% compounded annually for 4 years

\$1,458.61

9. \$2,000 at $3\frac{1}{2}\%$ compounded annually for 2 years

\$2,142.45

10. \$4,500 at 8% compounded annually for 3 years

\$5,668.7

Solve.

11. Ms. Ito is lending her nephew Dan \$3,000 for college. She is charging him 2% simple interest each year. He will pay his aunt back in four years. How much interest will he pay?

\$240