NAME_____

Module 7 **Ratio, Proportion, and Percent**
Lesson 7 **Problem Solving with Percents**

Guided Practice 7.7

Set 1

1 Eighty students went on the Earth field trip last year, and 64 students went on the Earth field trip this year. Find the percent of change from last year to this year. Tell if it is a percent of increase or decrease.

$$80 - 64 = 16$$

$$\text{percent of decrease} = \frac{\text{amount of decrease}}{\text{original amount}} = \frac{16}{80} = \frac{1}{5} = 20\%$$

20% decrease

2 A photograph that measures five inches wide was enlarged 15%. How much wider is the new photograph and what is its total width?

Amount of increase:

$$0.15 \times 5 = 0.75 = \frac{3}{4}$$

Total width:

$$5 \text{ in.} + \frac{3}{4} \text{ in.} = 5\frac{3}{4} \text{ in.}$$

3 A $70 pair of jeans is on sale for 10% off. What is the amount of decrease? What is the new price?

Amount of decrease:

$$0.10 \times 70 = \$7$$

New price:

$$70 - 7 = \$63$$

Set 2

1. Mr. McBride saved $4,000 at a rate of 3% for 10 years. What were the amount of simple interest and the total amount in his account?

$$I = Prt$$
$$I = 4{,}000(0.03)(10)$$
$$I = 1{,}200$$

$$\$4{,}000 + \$1{,}200 = \$5{,}200$$

Amount of interest: $1,200; Total amount: $5,200

2. Randy borrowed $1,000 at a rate of 4% interest for 18 months. How much simple interest did he pay?

$$I = Prt$$
$$I = 1{,}000(0.04)(1.5)$$
$$I = 60$$

$60 simple interest paid

Set 3

1. Six hundred dollars is borrowed for two years. How much interest will be paid if the interest rate is 8% compounded annually?

Year 1:

$$I = Prt$$
$$I = \$600(0.08)(1) = \$48$$
$$A = P + I = \$600 + \$48 = \$648$$

Year 2:

$$I = Prt$$
$$I = \$648(0.08)(1) = \$51.84$$
$$A = P + I = \$648 + \$51.84 = \$699.84$$

Six hundred dollars is borrowed for one year. How much interest will be paid if the interest rate is 8% compounded semiannually?

$$\text{First } \frac{1}{2} \text{ Year:}$$

$$I = Prt$$

$$I = \$600(0.08)\left(\frac{1}{2}\right) = \$24$$

$$A = P + I = \$600 + \$24 = \$624$$

$$\text{Second } \frac{1}{2} \text{ Year:}$$

$$I = Prt$$

$$I = \$624(0.08)\left(\frac{1}{2}\right) = \$24.96$$

$$A = P + I = \$624 + \$24.96 = \$648.96$$