LESSON 3.7

Percent of Change

CA Standards NS 1.6

Goal: Solve problems with percent of increase or decrease.

Vocabulary

Percent of change: How much a quantity has increased or decreased from the original amount

Percent of increase: A percent of change when the new amount is greater than the original amount

Percent of decrease: A percent of change when the new amount is less than the original amount

Percent of Change

Use the following equation to find a percent of change.

$$\text{Percent of change, } p\% = \frac{\text{New amount} - \text{Original amount}}{\text{Original amount}}$$

EXAMPLE 1 Finding a Percent of Increase

Sales A real estate agent sells 32 properties one year. The next year, the agent sells 54 properties. Find the percent of increase.

Solution

$$p\% = \frac{54 - 32}{32}$$ Write amount of increase and divide by original amount.

$$= \frac{22}{32}$$ Subtract.

$$= \frac{11}{16}$$ Simplify.

$$= 0.6875$$ Write fraction as a decimal.

$$= 68.75\%$$ Write decimal as a percent.

Answer: The percent of increase is 68.75%.

EXAMPLE 2 Finding a Percent of Decrease

Population In 2000, a town's population was 1260. In 2006, the population was 1050. What is the percent of decrease in the town's population?

Solution

To find the percent of decrease, use the percent of change equation.

$$p\% = \frac{1050 - 1260}{1260}$$ Write amount of decrease and divide by original amount.

$$= \frac{-210}{1260}$$ Subtract.

$$= \frac{1}{6}$$ Simplify.

$$\approx -0.1667$$ Write fraction as a decimal.

$$= -16.67\%$$ Write decimal as a percent.

Answer The percent of decrease is about 16.7%.

Guided Practice **Tell whether the change is an *increase* or *decrease*. Then find the percent of increase or.**

1. Original amount: 80 New amount: 60	**2.** Original amount: 25 New amount: 40	**3.** Original amount: 48 New amount: 64

EXAMPLE 3 Using a Percent of Increase

Banking Two years ago, your savings account balance was $492.19. Since then, the balance has increased 32.6%. What is the current balance?

Solution

1. Find the amount of increase.

Amount of increase = 32.6% of 492.19

$= 0.326 \cdot 492.19$ Write 32.6% as a decimal.

≈ 160.45 Multiply.

2. Add the amount of increase to the original amount.

New amount $\approx 492.19 + 160.45 = 652.64$.

Answer: The current balance in your savings account is $652.64.

A shortcut to finding a percent of a number is to write the percent as a decimal and then find the prodcut of the decimal and the number.

Homework