Name _____ Date _____ Class _____

SKILL 19: PROBLEM SOLVING: Percent of Increase and Decrease

To find the **percent of increase**, compare the amount of increase to the original amount

$$\frac{\text{amount of increase}}{\text{original amount}} = \frac{n}{100}$$

To find the **percent of decrease**, compare the amount of the decrease to the original amount.

$$\frac{\text{amount of decrease}}{\text{original amount}} = \frac{n}{100}$$

Example

Last year the Luna family paid $900 a month for rent. This year the rent increased to $972 a month. By what percent did their rent increase from last year to this year?

Read The rent increased from $900 to $972.

Plan Subtract to find the amount of the increase: $972 − $900 = $72. Write a proportion to find what percent $72 is of $900.

$$\begin{matrix}\text{amount of increase} \longrightarrow \\ \text{original amount} \longrightarrow\end{matrix} \frac{72}{900} = \frac{n}{100}$$

Solve Find the cross products. $900n = 7200$

Divide by 900. $n = 8$

The percent of increase is 8%.

Look Back Is 8% of $900 equal to $72? Since $0.08 \times 900 = 72$, it checks.

Guided Practice

1. The original price of a pair of jeans was $30. The sale price is $24. What is the percent of discount? (*Discount* is a decrease in price.)

a. Find the amount of the discount. $30 − $24 = $_____.

b. Write a proportion to find the percent of discount.

$$\frac{\text{amount of decrease}}{\text{original amount}} \begin{matrix}\longrightarrow \square \\ \longrightarrow \square\end{matrix} = \frac{n}{100}$$

c. Solve the proportion. What is the percent of discount? _____

2. Michael bought a baseball card for $5. He later sold it for $10. By what percent did the price of the card increase?

a. Write a proportion to find the percent of increase.

$$\frac{\text{amount of increase}}{\text{original amount}} \begin{matrix}\longrightarrow \square \\ \longrightarrow \square\end{matrix} = \frac{n}{100}$$

b. By what percent did the price of the card increase? _____