

Content and Language Objective:

Students will work with a variety of percent word problems and be able to determine the proper method to use to solve each problem.

Warm-Up

1. What is 63% of 752?

$$\frac{X}{752} \times \frac{63}{100} = \frac{473.76}{100} = \frac{100x}{100}$$

2. 76 is 14% of what?

$$\frac{7600}{14} = \frac{14x}{14}$$
$$x \approx 543$$

$$X = 473.76$$
$$\frac{76}{X} = \frac{14}{100}$$
$$1064 \quad 10.64$$

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Sometimes when dealing with percentages, you have to find the **PERCENT CHANGE**.

The **PERCENT CHANGE** compares old values to new values.

When you are given the information you subtract the old from the new, then divide by the old value, then multiply by 100 to put it in percent form.

$$\frac{\text{NEW VALUE} - \text{OLD VALUE}}{\text{OLD VALUE}} \bullet 100$$

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There were 160 smarties in the box yesterday, but now there are 116, what is the percentage change?

% decrease

New - 116

Old - 160

$$\frac{116 - 160}{160} = 100$$

$$= \frac{-44}{160} \cdot 100$$

$$= -.275 \cdot 100 = -27.5\%$$

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You bought a new car for \$15,525, the value of the car after owning it for 5 years is \$11,625. What is the percent change?

$$\begin{array}{l} \% \text{ decrease} \\ \text{New } 11,625 \\ \text{old } 15,525 \end{array} \quad \begin{array}{l} 11,625 - 15,525 \\ -3900 / 15,525 \\ 0.251 \cdot 100 \\ -25.1\% \end{array}$$

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EXAMPLES OF NON-PERCENT PROPORTION:

The Crayola Crayon Company can make 2400 crayons in 4 minutes. How many crayons can they make in 45 minutes?

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A typist can type 120 words in 100 seconds. At that rate, how many seconds would it take her to type 1214 words?

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There are 28 students in a class. Sixteen of those students are men. What percent of the class are women?

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Donovan took a math test and got 35 correct and 10 incorrect. What was the percentage of correct answers?

