

NAME _____

Module 7 Ratio, Proportion, and Percent
 Lesson 2 Finding Percents

Lesson Objectives

- Relate with or without models and pictures, concepts of ratios, proportion, and percent, including percents less than 1 and greater than 100.
- Demonstrate conceptual understanding to find a specific percent of a number, using models, real life examples, or explanations.

Subtopic 1 Percent and Ratio

Changing a Ratio to a Percent

- Write the **ratio** as a fraction.
- Write the fraction as a **decimal**.
- Write the **decimal** as a percent.

Write as a percent.

★ 1 $\frac{7}{4}$

$$\frac{7}{4}$$

$$1.75$$

$$175\%$$

★ 2 3 to 500

$$\frac{3}{500}$$

$$\frac{3 \times \frac{1}{5}}{500 \times \frac{1}{5}} = \frac{\frac{3}{5}}{100} = \frac{3}{5} \% = 0.6 \%$$

Subtopic 2 Finding the Percent of a Number

Finding the Percent of a Number

- Write the percent as a decimal or fraction.
- Multiply.

3

Twenty-eight percent of the school's 250 computers got new keyboards. How many computers got a new keyboard?

$$\begin{array}{l} 28\% \text{ of } 250 \\ 0.28 \times 250 \\ 70 \end{array}$$

Seventy computers got new keyboards.

4

Amanda used 6,400 cell phone minutes. One-fourth percent of those minutes were used to download ringtones. How many minutes did Amanda use to complete the downloads?

$$\begin{array}{l} \frac{1}{4}\% \text{ of } 6,400 \\ \frac{\frac{1}{4}}{100} = \frac{1}{4} \times \frac{1}{100} = \frac{1}{400} \\ \frac{1}{\cancel{400}} \times \frac{\overset{16}{\cancel{6,400}}}{1} = 16 \end{array}$$

Amanda used 16 minutes to download ringtones.

Subtopic 3**Proportions**

A proportion is a number sentence stating that two ratios are equal.

The extremes of a proportion are the first and fourth terms.

The means of a proportion are the second and third terms.

In a proportion, the product of the extremes equals the product of the means.

Determining if Two Ratios Form a Proportion

- Write each ratio as a fraction in simplest form.
- If the fractions are the same, then the ratios form a proportion.
or
- Find the product of the extremes and the product of the means.
- If the cross products are equal, then the ratios form a proportion.



Are $\frac{4}{5}$ and $\frac{12}{15}$ in proportion?

$$\frac{4}{5} = \frac{12}{15}$$
$$4 \square 15 = 60 \qquad 5 \square 12 = 60$$

YES

