

Name: KEY

4.3 Proportion and Percent Equations

Objectives:

1. Use proportions when solving percent problems
2. Write and solve percent equations

A percent is a ratio comparing a number to 100.

$$63\% = \frac{63}{100}$$

We use:

$$\frac{\%}{100} = \frac{\text{is}}{\text{of}}$$

$$\text{Percent is } \frac{n}{100} = \frac{\text{part (is)}}{\text{whole (of)}}$$

Examples: Finding the Percent

1. What percent of 72 is 18?

$$\frac{n}{100} = \frac{\text{part (18)}}{\text{whole (72)}}$$

$$\frac{n}{100} = \frac{18}{72} \quad \leftarrow$$

$$\boxed{n = 25\%}$$

2. What percent of 150 is 90?

$$\frac{x}{100} = \frac{90}{150}$$

$$\boxed{x = 60\%}$$

Examples: Finding the Whole

always put % over 100

3. 60% of what is 45?

$$\rightarrow \frac{60}{100} = \frac{45 \text{ is}}{x \text{ of}} \quad \leftarrow$$

$$\boxed{x = 75}$$

4. 75% of what is 48?

$$\frac{75}{100} = \frac{48}{x}$$
$$x = 64$$

Examples: Finding the Part (is)

5. What is 39% of 1500?

$$\frac{39}{100} = \frac{x}{1500}$$

$$1500(39) = 100x$$

$$x = 585$$

6. What is 20% of 650?

$$\frac{20}{100} = \frac{x}{650}$$

$$x = 130$$

7. What is 250% of 14?

$$\frac{250}{100} = \frac{x}{14}$$

$$x = 35$$

8. You spent 16% of your vacation money on food. If you spent \$48 on food, how much money did you spend on your vacation?

part (is)

total (of)

$$\frac{16}{100} = \frac{48}{x}$$

$$x = \$300$$

Question, Highlight, Summarize