

6.4 The Percent Equation

EQ: How can you use an equivalent form of the percent proportion to solve percent problems?

The percent equation:

$$\text{part (is)} = \boxed{\text{Percent in fraction or decimal form}} \cdot \text{whole (of)}$$

↖ multiplication

$$a = p \cdot w$$

Example 1: Finding the part

What is 24% of 50?

$$x = .24 \cdot 50$$

$$x = 12$$

12 is 24% of 50

$$x = \frac{24}{100} \cdot \frac{50}{1}$$

$$x = \frac{24}{2} \cdot 1$$

$$x = 12$$

Example 2: Finding the percent.

9.5 is what percent of 25?

re-write ↘

$$9.5 = x \cdot 25$$

$$9.5 = \frac{25}{25} x$$

turn back into percent form ↘

$$0.38 = x$$

$$x = 38\%$$

9.5 is 38% of 25

Example 3: Finding the whole

52% of what number is 39?

decimal or fraction form when put into equation ↘

$$39 = .52x$$

$$\frac{39}{.52} = \frac{.52x}{.52}$$

$$75 = x$$

$$x = 75$$

52% of 75 is 39