

## Solving Percent Problems

Method One: Percent Proportion

$$\frac{\text{Part (P)}}{\text{Whole (W)}} = \frac{\text{Percent (\%)}}{100}$$

Key Words or Phrases

- "what **is**" - looking for the **part**
- "**of** what" - looking for the **whole**

Use the words from the problem to set-up the proportion and then solve.

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Method Two: Percent Equation

$$\text{Part (P)} = \text{Percent (\%)} \times \text{Whole (W)}$$

Must convert %  
to a decimal.

Use the words from the problem to set-up the equation and then solve.

## Mini-lesson: Converting Percents to Decimals

- move the decimal point two places to the left and drop the % sign.

a) 46%

$\underline{46}\%$   
0.46

b) 5.2%

0.052

c) 147%

1.47

d)  $30 \frac{1}{4}\%$

$\underline{30.25}\%$   
0.3025

Solve using the percent proportion or the percent equation.

1) Find 65% of 440.

$$\frac{x}{440} = \frac{65}{100}$$

$$100x = 28600$$

$$x = 286$$

$$x = .65 \times 440$$

$$x = 286$$

Solve using the percent proportion or the percent equation.

2) What number is 8.8% of 20?

$$\frac{x}{20} = \frac{8.8}{100}$$

$$100x = 176$$

$$x = 1.76$$

$$x = 0.088 \times 20$$

$$x = 1.76$$

Solve using the percent proportion or the percent equation.

3) Six is what percent of 47?

$$\frac{6}{47} = \frac{x}{100}$$

$$47x = 600$$

$$x = 12.8$$

4) An Asian Salad gets 28 of its Calories from protein. If this is 22% of the total Calories, how many Calories does the salad have?  
Round to the nearest whole number.

$$\frac{28}{x} = \frac{22}{100}$$

$$22x = 2800$$

$$x = 127.3 \approx 127 \text{ total calories}$$

~~$$\begin{aligned} \frac{x}{28} &= \frac{22}{100} \\ 100x &= 616 \\ x &= 6.16 \end{aligned}$$~~

5) Of the 58 students that took the Chapter 5-5 to 5-10 Test, 34 received an A. What percent were As?

$$\frac{34}{58} = \frac{x}{100}$$

$$58x = 3400$$

$$x = 58.6\%$$