

6.4 The Percent Equation p.234

equation: a mathematical sentence w/an equal sign.

A percent equation is an equivalent form of a percent proportion in which the percent is written as a decimal.

- **DO NOT** use a proportion
- Percents must be turned into a decimal
- "of" means multiply
- "is" means equal sign
- All final answers must be rounded to the tenths place
(unless it ends in the hundredths)

There are 3 types of percent equations

$$a = p \cdot w \quad \text{or} \quad p \cdot w = a$$

1. Looking for the "part" (is):

What is 6% of 525? or Find 6% of 525.

$$x = 0.06(525)$$

(use () to show multiplication)

$$x = 31.5$$

2. Looking for the "whole" (of):

65 is 52% of what number?

$$\frac{65}{0.52} = \frac{0.52x}{0.52}$$

$$125 = x$$

(when you have a coefficient and a variable, you don't need ())

* 3. Looking for the percent:

YOUR FINAL ANSWER IS A DECIMAL; YOU MUST TURN IT BACK INTO A PERCENT

(move the decimal 2 times to the right) and add a percent sign

62 is what percent of 186?

$$62 = x\% (186)$$

coefficient first

$$\frac{62}{186} = \frac{186x}{186}$$

$$0.\bar{3} = x$$

$$33.3\% = x$$

* move the decimal first, then round; no bar, b/c you rounded it

4. What number is 24% of 50?

$$x = 0.24(50)$$

$$x = 12$$

5. 9.5 is what percent of 25?

coefficient first

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

$$0.38 = x \quad \boxed{38\%}$$

decimal \rightarrow %

6. 39 is 52% of what number?

$$\frac{39}{0.52} = \frac{0.52x}{0.52}$$

$$\boxed{75 = x}$$

7. Las Colinas raised 125% of its fundraising goal. The school raised \$6750. What was the goal?

% of # = part
(w)

$$\frac{6750}{1.25} = \frac{1.25x}{1.25}$$

$$\boxed{\$5400 = x}$$

8. Miranda and Izzy went to dinner. The bill came to \$35.50. If they want to give the waiter a 20% tip, how much should they leave for a tip?

% of # \rightarrow multiply

$$x = .2(35.50)$$

$$\boxed{x = \$7.10}$$

9. How can you tell whether the percent of a number will be greater than, less than, or equal to the number?

over
100%

under
100%

exactly 100%

CHECK TO SEE IF YOUR ANSWERS ARE REASONABLE.