

Name: _____

Unit 3 - Finance

3.0 - Review of Percents

Remember Proportions???

A *proportion* occurs when two fractions are separated by an equal sign **i.e.** $\frac{3}{4} = \frac{15}{20}$

If we know three of the four numbers in a proportion, we can use the method of *cross-multiply and divide* to solve for the missing value

Example: Solve for x .

1. $\frac{6}{5} = \frac{x}{20}$

2. $\frac{5}{8} = \frac{35}{x}$

We can use proportions to solve problems involving *percent*.
There are **two** main types of percent problems.

Find what percent one number is of another

number

What percent is 28 of 40? Answer $\rightarrow \frac{x}{100} = \frac{28}{40}$

$$x = \frac{100 \times 28}{40}$$
$$x = 70\%$$

NOTE: 1. "Percent" is *always* a fraction with a denominator (bottom) of **100**.

2. The number following the word "**of**" always goes in the **bottom** of the second fraction.

3. The word "what" can be replaced with the variable, x .

Examples: a. What percent is 37 out of 55?

b. 43 is what percent of 96?

another number

Finding a number that is a certain percent of

a. What number is 80% of 45?

b. 88 is 20% of what number?

c. 75% of what number is 120?

d. 90% of 620 is what number?

b. What number is 50% of 95?

b. 188 is 10% of what number?

c. 35% of what number is 320?

d. 43% of 320 is what number?

Assignment

Write the *proportion* to be solved for each question. Find the missing number or percent. Round your answers to **ONE DECIMAL** if necessary.

1. 12 is what percent of 5? 1) _____

2. What number is 45% of 120? 2) _____

3. 55% of what number is 6. 3) _____

4. 8% of 950 is what number? 4) _____

5. 30 is 22% of what number. 5) _____

6. What percent is 31 out of 40? 6) _____

7. 300% of this number is 66. 7) _____

8. 27 out of 62 is what percent?

8) _____

9. 91% of 61 is what number?

9) _____

10. 42 is what percent of 57?

10) _____

11. What number is 23% of 82?

11) _____

12. 114% of this number is 9.2.

12) _____

13. 74.5% of 212 is what number?

13) _____

14. 47.8 is 68% of this number.

14) _____

15. What percent is 162 of 220?

15) _____