

PRINCIPLES - LESSON 5B

PERCENTAGES

2% Real Estate
Commissions
Buyer Rebates

OFF
ALL NEW TITLES

-20 %

GET 20%
FREE!!!

PERCENT: out of 100

LISTING
AS LOW AS
4%

REINSTATE YOUR
PLAN NOW!

0% APR

For 12 Months

[Click Here]

0%
DOWN
LOANS

PER = "out of"

CENT = "100"



10% OFF!
Your Next Order

percentages are everywhere

Define these words:

century = 100 years

centipede = insect supposed to have 100 legs

centimeter = 100 of these in a meter

centenarian = person who has reached the age of 100



MORE THAN YOU EVER WANTED TO KNOW ABOUT PERCENTS

The word percent comes from the Latin phrase per centum, which means out of one hundred.

Percents are ratios that compare a number to 100.

We can compare different quantities by first converting them to percentages.



THIS IS THE REALLY IMPORTANT PART

We can solve any percent problem by using the PERCENT PROPORTION.

$$\begin{array}{l} \text{The Percent} \\ \text{Proportion} \end{array} \quad \frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

THE PERCENT PROPORTION

The Percent
Proportion

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

← **MEMORIZE**

How to use the Percent Proportion:

Insert numbers from the problem into the percent proportion, cross multiply, and solve.

100 - ALWAYS goes in the bottom right of the proportion

% place - find the number that has a % sign after it

"whole" place - find the number that follows the word "OF"

"part" place - find the number that is left over
- sometimes, though not always, near the word "IS"

THE PERCENT PROPORTION

$$\text{The Percent Proportion} \quad \frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

ex1) Find 40% of 50.

$$\frac{x}{50} \quad \cancel{=} \quad \frac{40}{100}$$

$$100x = 2000$$

$$x = 20$$

20 is 40% of 50.

ex2) 2 is what percent of 50?

$$\frac{2}{50} \quad \cancel{=} \quad \frac{x}{100}$$

$$50x = 200$$

$$x = 4$$

2 is 4% of 50.

THE PERCENT PROPORTION

$$\text{The Percent Proportion} \quad \frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

ex3) 30 is 60% of what number?

$$\frac{30}{x} \quad \cancel{=} \quad \frac{60}{100}$$

$$60x = 3000$$

$$x = 50$$

30 is 60% of 50.

ex4) Find 180% of 40.

$$\frac{x}{40} \quad \cancel{=} \quad \frac{180}{100}$$

$$100x = 7200$$

$$x = 72$$

180% of 40 is 72.

THE PERCENT PROPORTION

$$\text{The Percent Proportion} \quad \frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

ex5) What percent of 80 is 10?

$$\frac{10}{80} = \frac{x}{100}$$

$$80x = 1000$$

$$x = \frac{1000}{80} \text{ or } 12.5$$

10 is 12.5% of 80.

ex6) 8 is 20% of what number?

$$\frac{8}{x} = \frac{20}{100}$$

$$20x = 800$$

$$x = 40$$

8 is 20% of 40.