Name: Key

Hour: _____

Notes: Solving Percent Problems

You can solve all kinds of percent problems if you do a little translating first.

"how much" = "x"
"is" = "equals"
"of" = "multiply"
"%" = "0.01"

Finding the Percent of a Number

Example 1: How much is 18% of 40?

x = (0.18) * (40)

x = (0.18)(40)
x = 7.2

Example 2: 90% of 20 is how much?

0.90 * 20 = x

(0.90)(20) = x
18 = x

Finding the Percent (Don't forget "D2P" and change the answer to a %)

Example 3: What percent of 20 is 8?

x * 20 = 8

$20x = 8$

$x = \frac{8}{20} \Rightarrow x = .4 \Rightarrow x = 40\%$

Example 4: 15 is what percent of 120?

15 = x * 120

$15 = 120x$

$x = .125 \Rightarrow x = 12.5\%$

Finding the Total Number

Example 5: 12 is 16% of what number?

12 = 0.16 * x

$12 = .16x$

$x = 75$

Example 6: 88% of what number is 4.4?

0.88 * x = 4.4

$.88x = 4.4$

$x = 5$

But Wait, There's Another Option!

You don't have to use "translations" to solve percent problems. You can solve percent problems using proportions. (Recall that a proportion is two ratios that are equivalent.) Make up a percent problem example (or choose one of the problems above) and explain how you would use proportions to solve it.

Ex 1: $\frac{x}{40} = \frac{.18}{1}$

Ex 2: $\frac{x}{20} = \frac{.9}{1}$

Ex 3: $\frac{x}{1} = \frac{8}{20}$

Ex 4: $\frac{x}{1} = \frac{15}{120}$

Ex 5: $\frac{x}{12} = \frac{1}{.16}$

Ex 6: $\frac{x}{4.4} = \frac{1}{.88}$