

Name: \_\_\_\_\_

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?

$$\begin{array}{ccccccccc} \downarrow & & \downarrow & & \downarrow & & \downarrow & & \downarrow \\ x & = & (0.18) & * & (40) \end{array}$$

$$\begin{aligned} x &= (0.18)(40) \\ x &= 7.2 \end{aligned}$$

Example 2: 90% of 20 is how much?

$$\begin{array}{ccccccc} \downarrow & & \downarrow & & \downarrow & & \downarrow \\ 0.90 & * & 20 & = & x \end{array}$$

$$\begin{aligned} (0.90)(20) &= x \\ 18 &= x \end{aligned}$$

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

Example 3: What percent of 20 is 8?

$$\begin{array}{ccccccc} \downarrow & & \downarrow & & \downarrow & & \downarrow \\ x & * & 20 & = & 8 \end{array}$$

Example 4: 15 is what percent of 120?

$$\begin{array}{ccccccc} \downarrow & & \downarrow & & \downarrow & & \downarrow \\ 15 & = & x & * & 120 \end{array}$$

## Finding the Total Number

Example 5: 12 is 16% of what number?

$\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$

12 = 0.16 \* x

Example 6: 88% of what number is 4.4?

$\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$

0.88 \* x = 4.4

### But Wait, There's Another Option!

You don't have to use "translations" to solve percent problems. You can solve percent problems by applying what you have learned about 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.