

*January 31, 2012*

*No homework to correct so get out your notes.*

## ~~1/30~~ - Percent Equations - Finding the Whole

1/31

If you got a score of 32 on a test and you ended up with an 80%, how many points were possible on the test?

your score = part

total possible = whole

20 is 40% of what number?

↑

Score or total  
possible?

75% of what is 36?

↑

Score or total  
possible?

### Method 1: Decimals

$$\begin{array}{l} 20 = .40n \\ \hline .40 \quad .40 \\ 50 = n \end{array}$$

$\frac{3}{30} = \frac{1}{10}$

$$\begin{array}{r} 4 \overline{) 50} \\ \underline{20} \phantom{0} \\ 30 \phantom{0} \\ \underline{20} \phantom{0} \\ 10 \phantom{0} \\ \underline{10} \phantom{0} \\ 0 \end{array}$$

$$\begin{array}{l} .75n = 36 \\ \hline .75 \quad .75 \\ n = 48 \end{array}$$
$$\begin{array}{r} 48. \\ .75 \overline{) 36.00} \\ \underline{300} \phantom{0} \\ 600 \\ \underline{600} \\ 0 \end{array}$$

20 is 40% of what number?

75% of what is 36?

### Method 2: Fractions

$$20 = \frac{40}{100} n$$

$$\frac{5}{2} \cdot \frac{20}{1} = \frac{2}{5} n \cdot \frac{5}{2}$$
$$50 = n$$

$$\frac{100}{75} \cdot \frac{75}{100} n = \frac{12}{36} \cdot \frac{4}{75}$$
$$n = 48$$

Which method would be easier?

150 is 20% of what?

$$150 = .20n$$

$$150 = \frac{20}{100}n$$

12% of what is 30?

$$.12n = 30$$

$$\frac{12}{100}n = 30$$

12 is 2% of what?

$$12 = .02n$$

$$12 = \frac{2}{100}n$$

78% of what is 85?

$$.78n = 85$$

$$\frac{78}{100}n = 85$$

Use a calculator for these:

139.2 is 70% of what?

31.7 is 24% of what?

~~$139.2 = \frac{70}{100}n$~~   
Too icky!

$$\frac{139.2}{.7} = \frac{.70n}{.7}$$

$$198.9 = n$$

$$139.2 \div 0.7 = 198.857142857143$$

~~$31.7 = .24n$~~

$$132.1 = n$$

$$31.7 \div 0.24 = 132.083333333333$$

# HOMEWORK

Green Worksheet 2  
#1-20 all 5 as fractions  
15 as decimals  
Due ?