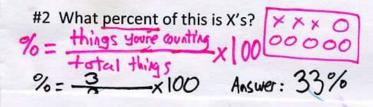
## Purpose: When matter is weighed, how can we find WARMUP:

#1 the <u>law of definite proportions</u> states that a chemical compound always contains exactly the same proportion of elements by mass (sometimes called **Proust's law**)

tormula



#3 If a compound contains 24 grams of carbon and 4.0 grams of hydrogen, what percent is hydrogen?

49rams × 100 = # 10%

what percent is carbon?

24 grams × 100 = 86%

here's how we solved #5 in class

5. Compounds of copper and chlorine
Compound A: 35.9 g of Cl / 64.1 g of Cu
Compound B: 52.8 g of Cl / 47.2 g Cu
a. Determine the value of the ratio $\frac{\text{mass Cl}}{\text{mass Cu}}$ in each compound. A $\frac{54}{1}$ B $\frac{1.12}{1}$ $A = \frac{1.12}{1.12}$ $A = \frac{1.12}{1.12}$ $B = \frac{1.12}{1.12}$ b. How does the mass ratio for compound B compare to that in compound A? B is double of A
c. What are the simplest formulas for compounds A and B? Explain your reasoning. $A = \frac{.56 \text{ Cl}}{1 \text{ Cu}} = \frac{.925}{25 \text{ Cu}} = \frac{.12 \text{ Cl}}{25 \text{ Cu}} = \frac{.12 \text{ Cl}}{1 \text{ Cu}} = \frac{.12 \text{ Cl}}{1 \text{ Cu}} = \frac{.235}{100} = \frac{.235}{25} = \frac{.235}{25}$
Strategy: We want integers on top + bottom. Algebra, says whatever, you do in a commound known as sucrose. Sucrose is composed of the elements