Homework tonight: Top Hat sheet

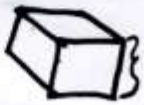
Turn in by 11:10: The graph

Purpose :

What is a "slope" GOOD FOR?

Warmup (copy this):

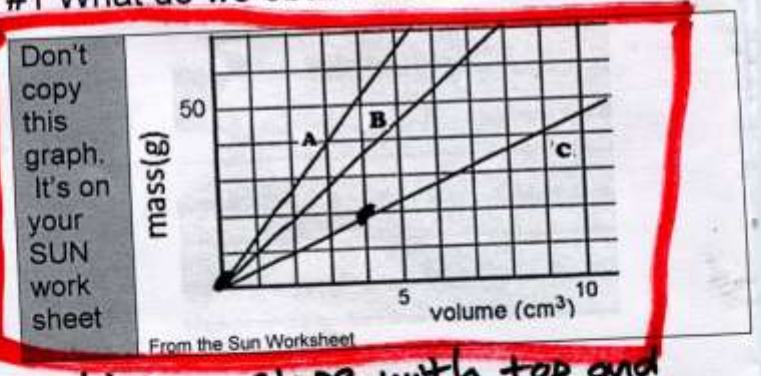
Milliliter (definition): a mL is the volume inside of a cube that is 1cm x 1cm x 1cm. In other words



1 mL = 1 cm^3

This has ∞ sig figs.

#1 What do we obtain from a best fit line?



We obtain a slope with top and bottom units. Line C: $\frac{\Delta y}{\Delta x} = \frac{20 \text{ grams}}{4 \text{ } cm^3}$

#2 How do we put a slope into a math equation?

Useful:

$$\frac{1.2\ grams}{} * \frac{1\ mL}{11.7\ grams} = 0.10\ mL$$

Not useful:

$$\frac{1.2\ grams}{} * \frac{11.7\ grams}{1\ mL} = 10 \frac{g^2}{mL}$$

Sample Problem

"What would a coin weigh if it were made of Thorium? We know that the density of thorium is 11.7 grams / 1 mL"

$$0.3\,mL \times \left(\frac{1\,mL}{11.7\,g}\right) = \frac{mL^2}{g}$$

from the slope of density

$$0.3\,mL \times \left(\frac{11.7\,g}{1\,mL}\right) = 3.2\ grams$$