

## Dimensional Analysis

Def: Mathematical way to convert from one set of units to another

ex:  $28 \text{ lbs} = ? \text{ g}$

$$\frac{28 \cancel{\text{lbs}} \mid 1000 \text{ (g)}}{2.20 \cancel{\text{lbs}}} =$$

↑  
look on back of periodic table (also in book or on-line etc.)

1) Multiply top then divide by bottom

$$\frac{28(1000)}{2.20} = \boxed{1.3 \times 10^4 \text{ g}} \quad \leftarrow \begin{array}{l} \text{put} \\ \text{answer in} \\ \text{sc. not.} \end{array}$$

table it and round  
to correct sig figs

\* Conversion factors have an infinite # of sig figs - they are defined quantities

ex:  $\frac{65 \text{ mile}}{\text{hr}} = \frac{? \text{ km}}{\text{min}}$

$$\frac{65 \cancel{\text{ mile}} \mid 1 \text{ (km)} \mid 1 \text{ hr}}{\cancel{\text{ hr}} \mid .621 \cancel{\text{ mile}} \mid 60 \text{ (min)}} = \boxed{\frac{1.7 \text{ km}}{\text{min}}}$$

↑  
convert  
miles → km

↑  
convert  
hr → min

Box answer

