

**Mole conversion worksheet- take 3**

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

Use the mole map below to help you on these problems. Locate where you are starting and then follow the arrows to get to where you need to end up. Show all work as I've shown in class and below.

**The Mole Map**

Molecules, atoms, ions, formula units	$\xrightarrow{\div 6.02 \times 10^{23}}$ $\xleftarrow{\times 6.02 \times 10^{23}}$	<b>1 mole</b>	$\xrightarrow{\times \text{molecular mass in g}}$ $\xleftarrow{\div \text{molecular mass in g}}$	Grams of substance
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Ex. Convert 43.6 g of NaCl to molecules of NaCl.

$$43.6 \text{ g NaCl} \left| \frac{1 \text{ mole NaCl}}{58.5 \text{ g NaCl}} \right| \frac{6.02 \times 10^{23} \text{ molecules NaCl}}{1 \text{ mole NaCl}} = 4.49 \times 10^{23} \text{ molecules NaCl}$$

Convert the following:

- $3.15 \times 10^{24}$  molecules Ethanol,  $\text{C}_2\text{H}_5\text{OH}$ , to moles of ethanol
- 148.50 grams of Tin (II) Nitrate to moles.
- 6.86 moles Potassium Fluoride to molecules.
- 46.7 g Iron (II) Bromide to molecules.
- $6.33 \times 10^{22}$  molecules of  $\text{O}_2$  to grams.
- $1.85 \times 10^{25}$  molecules Cobalt Phosphide to grams.
- 399.9 grams Magnesium Acetate to moles.