

Name: _____ Date: _____

MOLE CONVERSION

Answer the questions. Write answers on new paper.

There are three mole equalities. They are:

$$1 \text{ mol} = 6.02 \times 10^{23} \text{ particles}$$

$$1 \text{ mol} = \text{g - formula - mass (periodic table)}$$

$$1 \text{ mol} = 22.4 \text{ L for a gas at STP}$$

Each equality can be written as a set of two conversion factors.

They are:

$$\left\{ \frac{1 \text{ mole}}{6.02 \times 10^{23} \text{ particles}} \right\}$$

$$\left\{ \frac{6.02 \times 10^{23} \text{ particles}}{1 \text{ mole}} \right\}$$

$$\left\{ \frac{1 \text{ mole}}{\text{g - formula - mass}} \right\}$$

$$\left\{ \frac{\text{g - formula - mass}}{1 \text{ mole}} \right\}$$

$$\left\{ \frac{1 \text{ mole}}{22.4 \text{ L}} \right\}$$

$$\left\{ \frac{22.4 \text{ L}}{1 \text{ mole}} \right\}$$

1. How many atoms are in 0.750 moles of zinc?
2. How many molecules are in 0.400 moles of N_2O_5 ?
3. How many molecules are there in 4.00 moles of glucose, $\text{C}_6\text{H}_{12}\text{O}_6$?
4. How many moles of magnesium is 3.01×10^{22} atoms of magnesium?
5. How many moles are 1.20×10^{25} atoms of phosphorous?