

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## The Mole: One Step Conversions: Quiz 2a

**Make sure to SHOW ALL WORK and INCLUDE UNITS!**

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1. How many moles of magnesium is equivalent to  $3.01 \times 10^{22}$  atoms of magnesium?
2. How many moles are there in 28 grams of  $\text{CO}_2$ ?
3. Determine the volume, in liters, occupied by 0.030 moles of a gas at STP.

Answers: (*Sigs and Units!*)

1. See Below:

$$\text{a. } 3.01 \times 10^{22} \text{ atoms Mg} \times \frac{1 \text{ mol}}{6.02 \times 10^{23} \text{ atoms}} = 5.00 \times 10^{-2} \text{ mols Mg}$$

$$\text{b. } 28 \text{ g CO}_2 \times \frac{1 \text{ mol}}{44.01 \text{ g}} = 0.64 \text{ mols CO}_2$$

$$\text{c. } 0.030 \text{ mol} \times \frac{22.4 \text{ L}}{1 \text{ mol}} = 0.67 \text{ L}$$