NAME: \_\_\_\_\_

#### Let's try some more...

- 1. What is the Molar Mass of Propane  $C_3H_8$ ?
- 2. What is the Molar Mass of  $Al_2(SO_4)_3$ ?
- 3. What is the Molar Mass of one mole of Oxygen gas  $(O_2)$ ?
- 4. What is the Mass of one molecule of oxygen gas?
- 5. What is the Mass of one mole of oxygen atoms?
- 6. What is the Mass of one atom of oxygen?
- 7. If a steel cylinder contains 3.01 x 10<sup>23</sup> carbon dioxide molecules, how many moles of oxygen atoms are in the cylinder?
- 8. How many carbon dioxide molecules are in 0.75 mol of  $CO_2$ ?
- 9. How many atoms are there in 26.0g of carbon?
- 10. How many moles of carbon are in 26 g of carbon?
- 11. How many oxygen atoms are in  $0.75 \text{ mol CO}_2$ ?

Be sure to check your sig figs!

NAME: \_\_\_\_\_

## More Moles, Please!

1. How many moles of Helium atoms are there in 6.46g of Helium?

2. How many grams of Zn are in 0.356 mol of Zn?

3. What is the molar mass of  $SO_2$  and  $C_8H_{10}N_4$ ?

4. How many moles of  $CH_4$  are in 6.07g of  $CH_4$ ?

5. How many hydrogen atoms are present in 25.6g of urea, (NH<sub>2</sub>)<sub>2</sub>CO?

6. How many moles of cobalt atoms are in  $6.00 \times 10^9$  Co atoms?

7. How many grams of gold are there in 15.3 moles?

8. What is the mass in grams of a single atom of As?

9. The density of water at 4°C is 1.00g/mL. How many water molecules are present in 2.56mL of H<sub>2</sub>O at this temperature?

STOP! Check your answers with your lab partners. Call the teacher over for help if your answers are not matching...

NAME:

# More Moles, Please!

1. How many moles of Helium atoms are there in 6.46g of Helium?

$$6.46 g \times \frac{1}{4.000} = \boxed{1.62} \times 1$$

2. How many grams of Zn are in 0.356 mol of Zn?

- 3. What is the molar mass of SO<sub>2</sub> and C<sub>8</sub>H<sub>10</sub>N<sub>4</sub>? 64.1g/ms = 162.196
- 4. How many moles of  $CH_4$  are in 6.07g of  $CH_4$ ?

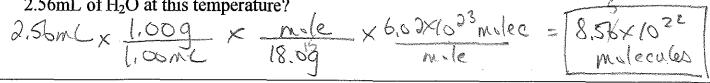
- 5. How many hydrogen atoms are present in 25.6g of urea,  $(NH_2)_2CO?$  $25.6g \times \frac{1}{60.07g} \times \frac{6.02 \times 10^{23}}{1} (H_2)_2CO \times \frac{4}{1} H atoms = \frac{1}{1} (NH_2)_2CO$
- 6. How many moles of cobalt atoms are in  $6.00 \times 10^9$  Co atoms?

7. How many grams of gold are there in 15.3 moles?

$$5.3 \text{ mol} \times 197.09 = 3014.19 = 13.01 \times 10^3 \text{ g}$$

8. What is the mass in grams of a single atom of As?

9. The density of water at 4°C is 1.00g/mL. How many water molecules are present in 2.56mL of H<sub>2</sub>O at this temperature?



#### STOP! Check your answers with your lab partners. Call the teacher over for help if your answers are not matching...

#### Let's try some more...

- 1. What is the Molar Mass of Propane  $C_3H_8$ ?
- 2. What is the Molar Mass of  $Al_2(SO_4)_3$ ?
- 3. What is the Molar Mass of one mole of Oxygen gas  $(O_2)$ ? 320 q mole
- 4. What is the Mass of one molecule of oxygen gas? I molecule × Imole × 32.09 = 5,32×10-239 6.02×10<sup>23</sup>molecules Imole
- 5. What is the Mass of one mole of oxygen atoms? |6,09|
- 6. What is the Mass of one atom of oxygen?  $1 \text{ atom} \times \frac{169}{602760^{33} \text{ atom}} \times \frac{169}{100} = 2.66 \times 10^{-23} \text{ g}$
- 7. If a steel cylinder contains 3.01 x 10<sup>23</sup> carbon dioxide molecules, how many moles of oxygen atoms are in the cylinder?

NAME:

- $3.01 \times 10^{23} \cos x \frac{1 \text{ mole}}{6.02 \times 10^{23} \cos x} \times \frac{20 \text{ atoms}}{1 \cos x} = 1.00 \text{ mol}$
- 8. How many carbon dioxide molecules are in 0.75 mol of  $CO_2$ ?

$$75mol \times 6.02 \times 10^{23} Co2 = [4.5 \times 10^{23} Co_2 molecules]$$

- 9. How many atoms are there in 26.0g of carbon? 26.0g × <u>mole</u> × <u>6.02×10<sup>23</sup> atoms</u> = [1.30×10<sup>24</sup> atoms] 12.0g mole
- 10. How many moles of carbon are in 26 g of carbon?

$$269 \times \frac{mole}{129} = [2.2mol]$$

11. How many oxygen atoms are in  $0.75 \text{ mol CO}_2$ ?

$$,75 \text{ mol} \times 6.03 \times 10^{23} \text{ Coz} \times 20 \text{ atoms} = [9.0 \times 10^{23} \text{ 0 atoms}]$$
  
 $n = 1 \quad 1 \text{ Coz}$ 

### Be sure to check your sig figs!

44.16/mole/ 342.39/mole.