

Name \_\_\_\_\_

## Mole Relationship Practice Worksheet 2

1. How many grams of oxygen gas are there in 2.5 moles of  $O_2$ ? **Ans. 80. g  $O_2$**
2. How many molecules of  $CO_2$  are there in 6.0 grams of  $CO_2$ ? **Ans.  $8.2 \times 10^{22}$  molecules  $CO_2$**
3. How many grams of CaO are there in 5.0 moles of CaO? **Ans. 280 g CaO**
4. What is the mass of a single atom of zinc? **Ans.  $1.08 \times 10^{-22}$  g Zn**
5. What is the number of molecules of water found in 3.5 grams of water? **Ans.  $1.2 \times 10^{23}$  molecules  $H_2O$**
6. What is the number of moles of water found in  $3.19 \times 10^{21}$  molecules of water? **Ans. 0.0053 moles  $H_2O$**
7. How many formula units are found in 10.9 moles of FeO? **Ans.  $6.56 \times 10^{24}$  formula units FeO**
8. How many grams of carbon are there in  $3.76 \times 10^{25}$  atoms of carbon? **Ans. 750. g C**
9. How many atoms of oxygen are there in 4.5 moles of  $O_2$ ?  
(Hint-There are 2 moles of O in every  $O_2$ ) **Ans.  $5.4 \times 10^{24}$**
10. How many fluorine atoms are there in 2.50 g of sulfur hexafluoride?  
(Hint-There are 6 fluorines in every sulfur hexafluoride) **Ans.  $6.18 \times 10^{22}$**
11. You come down with strep throat and the doctor needs to prescribe an antibiotic. Erythromycin is the best choice to use for this type of infection. How many molecules of Erythromycin are present in the 500. g tablet of Erythromycin? Assume the tablet is pure Erythromycin. Part 2...How many carbon atoms are there?  
Erythromycin is  $C_{37}H_{67}NO_{13}$  --Mol. mass 733.93 g/mol  
**Ans.  $4.10 \times 10^{23}$  Molecules of Erythromycin**  
**Ans.  $1.52 \times 10^{25}$  atoms of C**