

Mole Review Problems

1. What is a mole? What is Avogadro's number?
2. Calculate the number of moles in 61.8 g of Zn.
3. Calculate the number of molecules in 903 g of water.
4. How many grams are there in 3.25×10^{29} molecules of NaCN?
5. Calculate the molar mass in the following compounds:
 - a. LiI
 - b. $\text{Ca}(\text{MnO}_4)_2$
 - c. $\text{Fe}_2(\text{SO}_3)_3$
 - d. Cesium Bromide
 - e. Ammonium Dichromate
 - f. Diphosphorus Hexafluoride
6. Determine the percent composition of
 - a. CuSO_4
 - b. $\text{Pb}(\text{ClO}_3)_2$
 - c. Silicon Dioxide
7. A sample contains 4.20 g of nitrogen and 12.0 g of oxygen. What is the empirical formula for this sample?

8. Calculate the empirical formula:
- $C_7H_{21}O_7$
 - $CaCl_2$
 - $C_{100}H_{48}O_{86}$
 - $Ca_2O_4H_4$
 - $Ba_6N_{12}O_{36}$
9. What's the empirical formula of a molecule containing 18.7% lithium, 16.3% carbon, and 65.0% oxygen?
10. A compound has an empirical formula of $HClO_4$. What is the name of that compound? What is the percentage of oxygen in the compound?
11. What is the molecular formula of a compound that contains 50.42 % C, 9.24 % H, and 40.34 % O? If it has a molecular weight of 476.0 g/mol.
12. TNT has a formula of $C_6H_2CH_3(NO_2)_3$.
- What is its molar mass?
 - What is the percentage composition of TNT?

*****IF YOU HAVE QUESTIONS ABOUT THE MATERIAL PLEASE WRITE THEM DOWN AND BRING THEM TO CLASS ON MONDAY. OR IF YOU ARE DOING REVIEW PROBLEMS FROM ANOTHER SOURCE, PLEASE WRITE THEM DOWN AND BRING THEM TO CLASS!**