Stoichiometry Review Problems

Chemistry

1 A compound is analyzed and found to contain 68.54% carbon, 8.63% hydrogen, and 22.83% oxygen. The molecular weight of this compound is known to be approximately 140 g/mol. What is the empirical formula? If possible, write a Lewis structure.

2 Identify the limiting reagent for the given combination of reactants. Calculate the **total** number of moles of product.

\_\_\_F2 (g)  +  \_\_\_NH3 (g)  -->  \_\_\_N2F4 (g)  +  \_\_\_HF (g)               [unbalanced]

         5.0 mol     2.0 mol

3 Oxygen gas can be produced by decomposing potassium chlorate using the reaction below. If 140 g of KClO3 is heated and decomposes completely, what mass of oxygen gas is produced?

\_\_\_KClO3 (s)  -->  \_\_\_KCl (s)  +  \_\_\_O2 (g)

4 Given the following reaction, answer Parts A and B.

\_\_\_NaClO3 (s) -->  \_\_\_NaCl (s) + \_\_\_O2 (g)                  [unbalanced]

1. 12.00 moles of NaClO3 will produce how many grams of O2?
2. How many grams of NaCl are produced when 80.0 grams of O2 are produced?

5 Find the number of **atoms** in 200.g oxygen.