

Name: _____

Date: _____

Period: _____

Percent Composition and Molecular Formula Worksheet

1. What's the empirical formula of a molecule containing 65.5% carbon, 5.5% hydrogen, and 29.0% oxygen?
2. If the molar mass of the compound in problem 1 is 110 grams/mole, what's the molecular formula?
3. Find the molecular formula for a compound with an empirical formula of C_2OH_4 and a molar mass of 88 grams per mole.
4. Find the molecular formula for a compound with an empirical formula of $CFBrO$ and a molar mass of 254.7 grams per mole.
5. A 50.51 g sample of a compound made from phosphorus and chlorine is decomposed. Analysis of the products showed that 11.39 g of phosphorus atoms were produced.
 - a. Determine the mass of chlorine in the sample
 - b. Determine the percent composition of each element in the compound
 - c. What is the empirical formula of the compound?
 - d. The molar mass was determined by experiment to be 274.64g/mol. What is the molecular formula?

6. A sample of an unknown substance is found to have 49.37 g C, 4.14 g H and 21.86 g O
- Find the percent composition of each element in the unknown compound
 - Determine the empirical formula of the compound
 - If the molar mass of the compound is 124.16 what is the compounds molecular formula.
7. You have a 236.10 g sample of sodium nitride what is the mass of sodium in the sample? (Hint find % composition of sodium first.)
8. There is a 769.28 g sample of barium phosphate what is the mass of
- HINT: Write chemical formula for Barium Phosphate, and then find % composition of element
- Barium in the sample
 - Phosphorous in the sample