

Name _____

Percent Composition and Formulas Worksheet

1. Complete the following problems using the factor label method. SHOW ALL WORK!

a. ? moles = 34.5 grams zinc hydroxide

b. ? grams = 4.5×10^{23} molecules tetracarbon decahydride

c. ? grams = 6.23 moles magnesium chloride

2. Determine the percent composition of the following compounds. SHOW WORK!

a. Nitrogen monoxide

b. Dinitrogen tetroxide

c. $C_2H_5NH_3$

3. Complete the following problems to determine formulas. SHOW WORK!

a. Determine the *empirical* formula for a compound of 87.42% N and 12.58% H.

- b. Determine the *empirical* formula for a compound of 14.6% C; 39.0% O; 46.3% F.
- c. Determine the *molecular* formula for a compound with the empirical formula CHO and a molar mass of 116.1 g/mol.
- d. Determine the *molecular* formula for a compound with the empirical formula NPCl₂ and a molar mass of 347.66 g/mol.
- e. Determine the *molecular* formula for a compound of 24.78% C, 2.08% H, and 73.14% Cl, and a molar mass of 290.85 g/mol.
- f. Determine the *molecular* formula for a compound of 74.03% C, 8.70% H, 17.27% N, and a molar mass of 162 g/mol.