

Name \_\_\_\_\_

## Percent Composition and Formulas Worksheet

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

a. ? moles  $\text{Zn}(\text{OH})_2 = 34.5$  grams  $\text{Zn}(\text{OH})_2$

.347 mol

b. ? grams  $\text{C}_4\text{H}_{10} = 4.5 \times 10^{23}$  molecules  $\text{C}_4\text{H}_{10}$

43 g

c. ? grams  $\text{MgCl}_2 = 6.23$  moles  $\text{MgCl}_2$

594 g

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

a. NO

46.7% N; 53.3% O

b.  $\text{N}_2\text{O}_4$

30.4% N; 69.6% O

c.  $\text{C}_2\text{H}_5\text{NH}_3$

52.2% C; 17.4% H; 30.4% N

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.

$\text{NH}_2$

- b. Determine the *empirical* formula for a compound of 14.6% C; 39.0% O; 46.3% F.



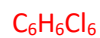
- c. Determine the *molecular* formula for a compound with the empirical formula CHO and a molar mass of 116.1 g/mol.



- d. Determine the *molecular* formula for a compound with the empirical formula  $\text{NPCl}_2$  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.

