**Chemistry Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Review**

**Formula Mass, % Comp. Period\_\_\_\_\_\_\_**

**Hydrates, Empirical Formulas**

**formula mass**

1. Calculate the formula mass of the following.

a. CuCl2 b. (NH4)2CO3

c. Hg(C2H3O2)2 d. KMnO4

**moles and mole/mass conversions**

1. Convert :

1. 10.0 grams of CaBr2 to moles.
2. 6.06 grams Fe2(SO4)3 to moles.
3. 88.4 grams MnI2 to moles.
4. 0.00202 moles of Ni(OH)2 to grams.

e. 1 atom of Gold to grams

**PERCENT COMPOSITION**

Find the percentage composition of the following.

1. CsF 2. NiI2

3. Bi203 4. CuCO3

5. BaH2 6. Ca(ClO)2

**EMPIRICAL AND MOLECULAR FORMULAS**

1. Find the empirical formula for a substance with the following composition: 45.3% Zn and 54.7% Se.
2. What is the empirical formula for each of the following compounds?
3. Na2O2
4. C4H4
5. KBr
6. Al2(SO4)3
7. What is the empirical formula for the compound with composition of 22.1% Al, 25.4% P and

52.5% O?

1. Determine the formula for the compound with the percent composition of 64.3% Barium, 13.2% silicon and 22.5% oxygen.

5. An organic molecule was analyzed and the following data was determined.

percent composition: 64.9% carbon

13.5% hydrogen

21.6% oxygen

molecular mass=222 g/mole

What are the empirical and molecular formulas for this molecule?

**Hydrate Calculations**

1. Find the formula for the following hydrates.
2. 0.737 g MgSO3, 0.763 g H2O
3. 95.3 g LiNO3, 74.7 g H2O
4. 76.9% CaSO3, 23.1% H2O

d. 89.2% BaBr2, 10.8% H2O