**Chemistry Name**

**Empirical & Molecular Formulas**

**Period\_\_\_\_\_**

1. Find the empirical formula of the following compounds and molecules.

1. 1.67 g Ce, 4.54 g I (iodine) b. 31.9 g Mg, 27.1 g P

c. 4.04 g Cs, 1.08 g Cl (chlorine) d. 9.11 g Ni, 5.89 g F

1. The molecular mass of benzene is 78 g/mole and its empirical formula is CH. What is the molecular formula?
2. What is the molecular formula of dichloroacetic acid, if the empirical formula is CHOCl and the molecular mass is 129 g/mole?
3. What is the molecular formula of cyanuric chloride, if the empirical formula is CClN and the molecular mass is 184.5 g/mole?
4. What is the molecular formula of a substance with an empirical formula TlC2H2O3 and molecular mass of 557 g/mole?
5. Find the molecular formula for a compound with percentage composition 85.6% C, 14.4% H, and a molecular mass 42.1 g/mole.
6. Find the empirical formula for a compound containing 33.3% calcium, 40.0% oxygen, and 26.7% sulfur.
7. The percentage composition of a compound is 92.3% C and 7.7% H. If the molecular mass is 78, what is the molecular formula?
8. Find the molecular formula of a compound with percentage composition 26.7% P, 12.1% N, and 61.2%Cl and a molecular mass of 695 g/mole.
9. What is the formula for a hydrate which consists of 90.7% SrC2O4 and 9.3% H2O?
10. Write the correct empirical formula next to the following compounds.

a. C6H6 c. C2H2

b. C2H6 d. H2O2

1. CH4
2. Find the empirical formulas for the following compounds.
3. 63.0 grams Rb and 5.90 grams O
4. 32.8% Cr and 67.2% Cl (chlorine)
5. 58.0% Rb, 9.50% N and 32.5% O
6. If the molecular mass of a substance is 70 grams/mole and its empirical formula is CH2, what is its molecular formula?

