

Chem I

Name \_\_\_\_\_

Date \_\_\_\_\_ Per \_\_\_\_\_

### Worksheet # C44: Halves, Thirds, and Molecular Formulas

1. Halves Practice Problem: An unknown sample contains 7.426 grams of molybdenum and 6.860 grams of chlorine. What is its empirical formula?

2. Homework Problem: An unknown sample contains 7.74 g carbon, 1.63 grams hydrogen, and 20.63 grams oxygen. What is its empirical formula?

3. Thirds Practice Problem: A new compound is found to be 74.67% phosphorus and 25.33% nitrogen. What is its empirical formula?

4. Homework Problem: Another unknown sample is 45.34% phosphorus and 54.66% oxygen. What is its empirical formula?

5. Molecular Formulas Sample Problem: The phosphorus-nitrogen compound in problem 3 is found to have a molecular mass of 829.55 grams per mole. What is its molecular formula?

6. Homework Problem: The sample from problem # 2 is found to have a molecular mass of 372.28 grams per mole. What is the sample's molecular formula?

7. Homework Problem: The sample from problem # 4 is found to have a molecular mass of 409.82 grams per mole. What is the sample's molecular formula?