

Name: _____ Period: _____ Date: _____ Score: _____

Empirical/Molecular Formula Practice Worksheet

Directions: Find the empirical *AND* molecular formulas given the percent compositions or masses. **SHOW YOUR WORK** to receive full credit.

1) 26.4 % Carbon 3.3 % Hydrogen 70.3 % Oxygen **Molar Mass:** 91.0 g/mol

Empirical Formula: _____

Molecular Formula: _____

2) 81.8 grams Carbon 18.2 grams Hydrogen **Molar Mass:** 132.0 g/mol

Empirical Formula: _____

Molecular Formula: _____

3) 20.2 % Sodium 37.6 % Sulfur 42.2 % Oxygen **Molar Mass:** 682.8 g/mol

Empirical Formula: _____

Molecular Formula: _____

4) 8.81 g Carbon 91.2 g Chlorine **Molar Mass:** 1362.5 g/mol

Empirical Formula: _____

Molecular Formula: _____

- 5) Determine the empirical and molecular formula of a compound composed of 18.24 g Carbon, 0.51 g Hydrogen, and 16.91 g Fluorine has a molar mass 562.0 g/mol.

Empirical Formula: _____

Molecular Formula: _____

- 6) A compound with a molar mass of 544.0 g/mol is made up of 26.5 grams Carbon, 2.94 grams Hydrogen, and 70.6 grams Oxygen. What is its empirical and molecular formula?

Empirical Formula: _____

Molecular Formula: _____

- 7) The percent composition of an unknown substance is 75.42 % Carbon, 6.63 % Hydrogen, 8.38 % Nitrogen, and 9.57 % Oxygen. If its molar mass is 334.0 g/mol what is its empirical and molecular formula?

Empirical Formula: _____

Molecular Formula: _____