**Name: Period: Seat#:**

**Worksheet #6**

**Percent Composition and Empirical Formula Race Questions***Your teacher will give you instructions on how to do this portion of the worksheet!*

|  |  |
| --- | --- |
| **Question #1** | **Question #2** |
| **Question #3** |
| **Question #4** |
| **Question #5** |

**Worksheet Questions***Show work for ANY math problem. Include ALL units*.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Write the empirical formula for C2H6
 | 1. Write the empirical formula for CH2O
 | 1. Write the empirical formula for CH3COOH
 | 1. Write the empirical formula for H2O
 |
| 1. Calculate % composition of each element in KNO3

*K = 38.67%, N = 13.86%, O= 47.48%* |
| 1. Calculate % composition of each element in H2SO4

*H = 2.06%, S= 32.69%, O = 65.26%]* |
| 1. Calculate % composition of each element in C6H5NH2

*C = 77.38%, H = 7.58%, N = 15.04%* |
| 1. A compound is found to have (by mass) 48.38% carbon, 8.12% hydrogen and the rest oxygen. What is its empirical formula?

*C3H6O2* |
| 1. A compound is found to have 46.67% nitrogen, 6.70% hydrogen, 19.98% carbon and 26.65% oxygen. What is its empirical formula?

*CH4N2O* |
| 1. A compound is known to have an empirical formula of CH and a molar mass of 78.11 g/mol. What is its molecular formula?

C6H6 |
| 1. Another compound, also with an empirical formula if CH is found to have a molar mass of 26.04 g/mol. What is its molecular formula?

*C2H2* |
| 1. A compound is found to have 1.121 g nitrogen, 0.161 g hydrogen, 0.480 g carbon and 0.640 g oxygen. What is its empirical formula? If the molar mass of the compound is 180.2 g/mol then what is the molecular formula for the compound?

*C3H12N6O3* |