**Chem 1013: mini-quiz #20: % composition**

Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_/6

**% Composition Problems**

1. **A compound contains 30.434 % N and 69.565 % O by weight. What is it’s empiric formula ?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **element** | **Weight, g** | **AW g/mol** |  |  |
| **N** | **30.434** | **14** |  |  |
| **O** | **69.565** | **16** |  |  |

**Empiric formula = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2. Given compound X containing 3.0 grams C, 4.0 grams O , 1.5 g H and 7.0 grams N , use the table provided below to determine the empiric formula for compound X**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Element | Weight (g) | Atomic weight |  |  |
| C | 3 | 12 g/mol |  |  |
| H | 1.5 | 1 |  |  |
| O | 4 | 16 |  |  |
| N | 7 | 14 |  |  |

X empiric formula = **C H O N**

**3 Compound X above actually has a molecular weight of 248 g/mole. What is the molecular formula of X ?**

X molecular formula= **C H O N**