Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Chem R Pd. \_\_\_\_ % Composition

*PRACTICE:* Calculate the molar mass (GFM) of each molecule below and determine what percentage of the compound each element takes up.

1) What is the percentage by mass of sodium in NaCl?

2) What is the percentage by mass of oxygen in H2O?

3) What is the percentage by mass of hydrogen in C6H12O6?

4) What is the percentage by mass of carbon in CH3COOH?

5) In your own words, explain what it means for a salt to be a **hydrate**.

6) Calculate the **% water** in each of the following hydrated compounds.

a) MgSO4◦7H2O b) CoCl2◦6H2O

c) Na2S2O3◦5H2O d) KNaC4H4O6◦4H2O

7) A student performed an experiment in which she heated a hydrated salt in a crucible to remove the water molecules and create an anhydrous (dry) salt. The data collected is below.

|  |  |
| --- | --- |
| **Object** | **Mass (g)** |
| Hydrated Salt before heating | 3.20 |
| Anhydrous (dry) Salt after heating | 2.83 |

What is the approximate percent by mass of the water in the hydrated salt?