

Chemistry I

Name _____

Date _____ Per _____

Worksheet # C45 Hydrates

Directions: Solve the following. Show all your set-ups. Remember sig figs and units in your answer.

1. What is the molecular mass of the hydrate lithium nitrate trihydrate?

2. What is the percent of water in the hydrate sodium sulfate decahydrate?

3. When a 5.0 gram sample of $\text{Cu}(\text{NO}_3)_2 \cdot x \text{H}_2\text{O}$ is heated, 3.9 grams of the anhydrous salt remains. What is the value of x ?

4. What percentage of water is found in $\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$?

5. When a 2.24 gram sample of a hydrate of calcium nitrate was heated, 0.54 grams of water was driven off. What is the formula of the hydrate of calcium nitrate?

6. A hydrate of sodium sulfite, $\text{Na}_2\text{SO}_3 \cdot x \text{H}_2\text{O}$, contains almost exactly 50% water by mass. What is the value of x ? [Hint: assume you have 100.00 grams of the stuff.]

7. A hydrate of sodium sulfate with the formula $\text{Na}_2\text{SO}_4 \cdot x \text{H}_2\text{O}$, weighing 3.223 g, is heated to drive off the water of hydration. The anhydrous sodium sulfate weighs 1.421 g. What is the value of x ?