NAME _____ LAB SECTION_____

Experiment 5: The Ion Exchange Properties of Solids

Ion Exchange Chromatography

This worksheet is the only "write-up" for the first week of this experiment. It will be collected when you arrive for lab the following week. *No late work will be accepted for this assignment.*

1. Complete the following data table. Be sure to include a caption.

Table 1.

Trial	1	2	3
Mass of $CuSO_4 \cdot x\ H_2O$ (g)			
Initial buret volume (mL)			
Final buret volume (mL)			

2. Calculate the number of moles of NaOH used in each trial.

3. Calculate the number of moles of H^+ ions titrated in each trial.

4. Calculate the number of moles of Cu^{2+} that displaced the titrated H^+ ions in each trial.

5. Calculate the molar mass of the copper sulfate hydrate from each trial.

6. Finally, determine the number of waters of hydration from each trial. Calculate the average value and the standard deviation.

7. Are you able to determine an integer value for the number of waters of hydration? If not, is it because of systematic or random error (or both)?