Unit 4 – Chapter 4 Post-Lab Questions: **Name _____**

Permanganate Determination of the Iron Sample   **Period _____**

1. The .75 M H_2SO_4 solution was prepared prior to lab. Your instructor needed 2 liters of .75 M H_2SO_4 and used a 1.0 M stock solution. How was this solution prepared?

2. In performing the lab, a student masses out 0.13 grams of sodium oxalate into a weighing boat. When transferring the substance into the Erlenmeyer flask, a small amount of the sodium oxalate remains in the dish, say 0.03 grams.
   a. How does the student's lab technique misstep affect the total volume of the sodium oxalate solution?

   b. Would the student's misstep result in a sodium oxalate solution with a higher, lower, or no effect on the desired solution molarity? Provide evidence to support your response.

3. When preparing a 0.02 M potassium permanganate solution, a student uses 2 grams of $KMnO_4$ instead of 1.58 grams.
   a. How does this miscalculation in the mass of impact the calculated molarity of the potassium permanganate solution? Provide evidence to support your response.

   b. Would the amount of sodium oxalate necessary to reach the endpoint of the equivalence point be affected in any way? If so, how would it be affected. Provide evidence to support your response.