Titration Classwork (20 points) name: ____

The burettes have _______ M $H_2SO_{4(AQ)}$ at left, and on the right is the base is $KOH_{(AQ)}$ - of unknown molarity

Your job is determine the strength of this base. We will titrate two times in a row, starting with different volumes of acid, and do titration math twice, and average our results. We will post the average molarity on the white board.

Get about 5 mL of acid into a small beaker, add 1 drop of phenolphthalein to this beaker. Carefully drip in base, until the solution turns PINK.

When it's pink, "back titrate" until clear - ONE DROP at a TIME. Once clear, titrate again ONE DROP at a time of the base until ONE DROP makes the solution PINK. That is as close to neutral as you can get, it is NOW time to get the final readings of the burets. Wash out the beaker 3X with water, and start again. The ending volume for acid (and base) are the new starting volumes. Use a different amount of acid in trial 2.

trial	Starting Acid volume mL	Ending Acid volume mL	mL of H_2SO_4 used in this trial	Starting Base volume mL	Ending Base volume mL	mL of KOH used in this trial
1						
2						

Determine the molarity of the base for the 1st trial. Start with a formula! (4)	Average the 2 molarity calculations.
Determine the molarity of the base for the 2nd trial. Start with a formula! (4)	

Questions to be done right on this page please. (two points each on this side)

1. If you were to titrate 74.3 mL of 2.25 M H_2SO_4 to neutral with exactly 134.5 mL of NaOH, calculate the molarity of the base. Write a formula, and then on the 2nd line, write in the numbers in the proper place.

2. Balance an acid base neutralization reaction between sulfurous acid and ammonium hydroxide.

3. Balance the acid base neutralization reaction between phosphoric acid and rubidium hydroxide.

4. If a solution has a pH of 2.0 and another solution has a pH of 5.0, compare the strength of the first solution to the second.

5. Write the simple chemical equation that shows why $NH_{3(AQ)}$ is a base, write 2 clear sentences that state the obvious important points here (check your notes, use the curved arrows too)

6. Put numbers on this simple line chart, going from zero to 14. Add 5 labels on top: strong acid, strong base, weak acid, weak base, and neutral. Add 5 real life examples of solutions on the bottom that correspond to their approximate pH values.