Dilution and Ion Concentration Calculation Worksheet Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Dilution Calculations*

1. A 50.0 ml sample of 0.100 M NaOH was diluted by adding 30.0 mL of water. What was the resulting [NaOH]? (reminder [ ] = concentration)
2. A 35.0 mL sample of 1.5 M H2SO4 was diluted to 50.0 mL. What was the final [H2SO4]? (Note: the wording of this problem is different, what is the final volume?)
3. A student dissolved 0.25 g of calcium nitrate in 100.0 mL of water. A 50.0 mL sample of this solution was diluted to 75.0 mL. What is the final concentration?
4. Calculate the concentration that results when 18.0 mL of 0.40 M K2CrO4 is added to 20.0 mL of water.

*Concentration of Ions in Solution*

1. A 35.0 mL of 0.20 M HNO3 was added to 75.0 mL of 0.15 M Al(NO3)3.
2. A 22.6 mL sample of 0.85 M H2SO4 was added to 35.4 mL of 1.3 M Na2SO4.
3. A 50.0 mL sample of 0.10 M potassium phosphate was added to 40.0 mL of 0.20 M potassium oxalate.
4. A 100.0 mL sample of 2.3 x 10-3 M ammonium phosphate was added to 40.0 mL of 4.5 x 10-2 M ammonium sulphite.