Calculations for Lab Report

* Mass of NaOH in grams (molarity → mol → grams)
* Mass of KHP in grams (mol → grams)
* Volume of NaOH used for a titration (Vfinal – Vinitial)
* Molarity of NaOH (g KHP → mol KHP → mol NaOH → mol NaOH÷L NaOH)
* Average molarity of three trials (rounded to s.f.)
* Grams of acetic acid (M NaOH x L NaOH = mol NaOH → mol acetic acid → grams acetic acid)
* Mass of vinegar (0.9676 g/mL x 2.50 mL)
* Percent acetic acid in white vinegar (mass acetic acid ÷ mass vinegar x 100)
* % error = |actual % - experimental %| ÷ actual % x 100

Discussion & Conclusion

* Describe titration (titrant, analyte, buret, ring stand, initial and final volumes, end point, equivalence point, indicator, color change by indicator) [be sure to explain difference between equivalence point and end point]
* Stoichiometric relationships (relationship among amount of moles of reactants and products; determined by coefficients; all 1 to 1 in this lab because one mole of reactants and products)
* Stoichiometric relationships used to determine amount of analyte or titrant as one will be known at all times
* Describe molarity
* Describe mass percentage
* Results: average molarity of NaOH, average mass percent acetic acid, average percent error
* Comment on accuracy of experiment based on average percent error