Name _____   Period _____

Titration Problems-2
Honors Chemistry

This experiment has three trials where we are trying to find the average molarity of a vinegar sample that was titrated three separate times. Just like your lab!

Mass of empty flask g	111.7300	111.7300	111.7300
Flask and vinegar g	116.7300	114.7300	113.7300
Initial buret reading mL	0.22	11.01	17.42
Final buret reading mL	11.01	17.42	21.78
mLs of NaOH added			
Molarity of NaOH	0.2315	0.2315	0.2315
Liters of NaOH added			
Moles of NaOH added			
Moles of acetic acid in vinegar			
Mass of acetic acid in vinegar			
Mass of vinegar			
% acetic acid in vinegar			
Average % acetic acid in vinegar	xxxxxxxxxxxxx		xxxxxxxxxxxxxxxx

This experiment had a twist. The NaOH that you used was not standardized. You do not know its concentration. Therefore you did three titrations first to react the NaOH with KHP whose real name and formula are potassium acid phtalate ($KHC_8H_4O_4$). It reacts with NaOH in a one to one ratio. From that data you can determine the concentration of the NaOH.

Mass of empty flask grams	111.7300	111.7300	111.7300
Mass of flask and KHP grams	112.3600	112.4400	112.2800
Mass KHP used grams			
Moles KHP Used			
Initial buret reading mL	0.11	0.19	0.20
Final buret reading mL	33.32	29.42	30.12
mLs of NaOH added			
Molarity of NaOH			
Mass of flask and vinegar grams	114.0000	114.7100	113.6600
Initial buret reading mL	0.22	11.01	17.42
Final buret reading mL	30.28	50.47	42.98
mLs of NaOH added			
Average Molarity of NaOH Determined Above			
Liters of NaOH added			
Moles of NaOH added			
Moles of acetic acid in vinegar			
Mass of acetic acid in vinegar			
Mass of vinegar			
% acetic acid in vinegar			
Average % acetic acid in vinegar			