Kinetics of Crystal Violet

Student Name:

Partner Name:

Date	Instructor Initials	Grade

Part A

Stock Crystal Violet Concentration (M) =

[CV] (M)	Absorbance

Show an example of the dilution calculation used to find the concentration of your standard solutions.

Prepare a beer's law plot for crystal violet. Report the equation of the line and R^2. **Note the equation of this line below and comment on how well the data fits the line.** You will need to upload your spreadsheet to Canvas.

Part B		
Sodium Hydroxide		
[NaOH] (M)		
NaOH Volume		
Trial 1	Trial 2	Trial 3
Export the data from your trials to a usb drive from your LabQuest. Prepare three plots for the data obtained in Part B Trial 1. One assuming a zero order rate law. One assuming a first order rate law. One assuming a second order rate law. Which of these plots yielded the greatest R^2 value? What is the rate order of the reaction? Upload your sheet to Canvas.		
Prepare a plot of the appropriate order for trials 2 and 3. Determine the pseudo-rate constant for each trial.		
Pseudo Rate Constant (k')		
Trial 1	Trial 2	Trial 3
Average k' =		
Average k		
Zero Order with respect to NaOH	Second Order with respect to NaOH	Third Order with respect to NaOH

Show your calculations for the concentration of NaOH in your three trials

Show your calculations for the average k values.