Name: _____   Section: _____

Data and Calculations for Experiment 18

Test Tube	Initial glucose concentration (from bottle)	Absorbance at 730 nm
1		
2		
3		
4		
5		
Unknown Code _____	To be determined in Question #1 below	

Based on your Excel® graph, what is the equation of the line? _____

Questions

1. Using your unknown absorbance value and calibration line, what is the concentration of your unknown solution? Show your work below.

2. The following absorbance values for four solutions with known MnO_4^- concentrations were measured using a spectrophotometer:

Solution	[MnO_4^-]	Absorbance
1	7.00×10^{-5} M	0.175
2	1.00×10^{-4} M	0.250
3	2.00×10^{-4} M	0.500
4	3.50×10^{-4} M	0.875

Plot a graph of Absorbance vs. Concentration of MnO_4^- using Microsoft Excel® (be sure to include your graph with this report). Determine the concentration of an unknown MnO_4^- sample whose absorbance is found to be 0.780.

3. In your own words, write a logical, coherent conclusion which demonstrates a thorough working knowledge and understanding of important concepts and underlying chemical principles pertinent to this experiment, forms appropriate conclusions based on interpretations of results, includes applications of and improvements in the experiment, and demonstrates accountability by providing justification for any errors. If additional space is needed, please use the back of this page. (For additional guidelines on writing this conclusion, please refer to the **Moorpark College Chemistry Department Laboratory Report Rubric** found in the lab manual and department website.)