



NAME/TEAM: \_\_\_\_\_

- 5) Write the Beer–Lambert Law that relates absorbance, pathlength, and concentration. Imagine that you plot absorbance as a function of concentration. A form of the equation that is useful for fitting this experimental plot is: “ $y = mx + b$ ”. Relate the variables and linear fit parameter ( $y$ ,  $m$ ,  $x$ , and  $b$ ) to the constants used in Beer’s Law.
- 6) Dilution of solutions is very common in “wet” labs. In this lab, a nitrite ( $\text{NO}_2^-$ ) solution of approximately  $5 \mu\text{g/mL}$  will be used to make 4 standard solutions of varying concentrations. If  $500.0 \mu\text{L}$  of the  $5 \mu\text{g/mL}$  solution is diluted to  $25.00 \text{ mL}$  in a volumetric flask, what is the resulting concentration of the diluted standard solution in  $\mu\text{g/mL}$ . (Remember the dilution equation:  $C_1V_1 = C_2V_2$  where  $C$  = concentration;  $V$  = volume).