

Prelab #4 Week 1—Vitamin Pill Lab Name \_\_\_\_\_

Lab section: M T W Th F

- Please put your answers in boxes provided
- Where applicable, report answers with the correct number of significant figures.

1. What instrument will you be using to make measurements in this lab? What quantity does this instrument measure?

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2. What species (which atom/ion/molecule) will you measure the absorbance of? (Hint: Not all species in solution are measurable.)

\_\_\_\_\_

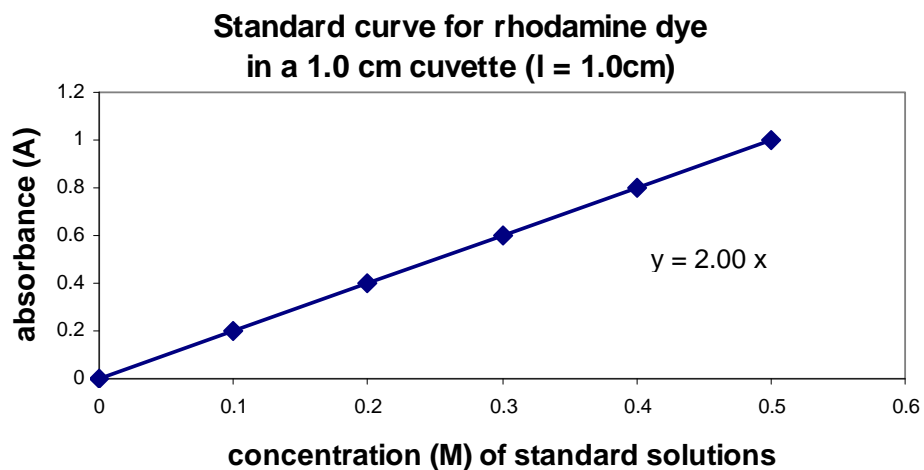
3. What is the difference between the solutions that you will be measuring?

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4. Explain how you would make 50.00 mL of a standard solution using 1.00 mL of  $5.000 \times 10^{-4}$  M ferrous ammonium sulfate stock solution. Include glassware used.

5. State Beer's Law. Indicate what each variable means.

6. Let's say you prepared several standard solutions with known concentrations of rhodamine dye. You measured the absorbance of each solution at a 550 nm and plotted  $A$  vs.  $c$  as shown below:



What is the extinction coefficient of the rhodamine dye?  
Include units. Explain.

Extinction coefficient