**Quiz 3A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. Answer the following questions about the graph (10 points):
	1. What is the dependent variable? \_\_\_\_\_\_\_density\_\_\_\_\_\_\_\_
	2. The x-axis is also known as the \_\_\_\_\_abscissa
	3. What is the slope of the line?

$$m=\frac{∆y}{∆x}=\frac{13.524\frac{g}{mL}-13.602\frac{g}{mL}}{300 K-270 K}$$

$$m=\frac{-0.078\frac{g}{mL}}{30. K}=-0.0026\frac{g}{mL K }=-2.6×10^{-3}\frac{g}{mL K}$$

$$m=-0.0026\frac{g}{mL K }=-2.6×10^{-3}\frac{g}{mL K}$$

* 1. Can you read the y-intercept directly from the graph? \_\_\_\_no
	2. What is the value of the y-intercept?

$$b=y-mx$$

$$b=13.580\frac{g}{mL}-(280 K)(-2.6×10^{-3}\frac{g}{mL K})$$

$$b=13.580\frac{g}{mL}+0.728\frac{g}{mL}$$

$$b=14.308\frac{g}{mL}$$

1. Define wavelength (3 points).

Wavelength is the distance between identical parts of a wave.

1. Are the following statements true or false (7 points)?

|  |  |  |
| --- | --- | --- |
|  | Use the same balance throughout an experiment to minimize any systematic errors in the weighing process.  | True |
|  | It is okay to write your measurements down on scratch paper and then transfer them to your data sheet so that it looks nice.  | False |
|  | If your hair or clothing should catch on fire one option is to use the safety shower. .  | True |
|  | Sweep up breakage immediately and place it in the trash can.  | False  |
|  | If a chemical spills on your hand, you should immediately go to the sink, rinse your hand for at least 15 minutes, and inform your instructor.  | True  |
|  | You only need to wear your safety glasses or goggles when you are working with chemicals or flames.  | False  |
|  | One goal of the Physical Properties experiment is to separate sand and iron fillings.  | False |