DETERMINATION OF ABSOLUTE ZERO

Date:	Name:		Partner:				
Objective: To determine_Absolute Zero							
Procedure: As in CHEM 1105 lab manual, pages							
Observations:							

Data:

Table 2: Height of Column of Air and Temperature

Reading Number	Height of Column of Air (mm)	Water Temperature (°C)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Calculations:

- 1) Attach a graph made in **Graphical Analysis or Excel** of **Column Height** (mm) versus **Temperature** (°C).
- 2) The temperature that corresponds to absolute zero will be the one for which the column length is zero. Determine the slope and y-intercept of the line and using the equation y=mx + b determine the value of Absolute Zero.

3) Show all your calculations for the slope and y-intercept when determining Absolute Zero.

Conclusion:

Table 3: Absolute Zero Results

	Slope	Y-Intercept	Absolute Zero
Value determined			
Units			

Discussion:

Write a short paragraph discussing your results. Compare your experimental data to the accepted value,

(-273.15 °C.)

Questions:

1. List three sources of error (not mistakes in technique) and the effect each would have on the calculated value for absolute zero. (e.g. not having a uniform bore in the capillary tube, etc.)

2. Calculate the % error of your experimentally determined value of absolute zero and the accepted value.