

Name: _____

Section: _____

Data and Calculations for Experiment 12

Pressure of the air in the room: _____

Temperature of the air in the room: _____

Actual Volume (mL)	1 / Volume (mL ⁻¹)	Pressure * Vol. = <i>k</i> (mmHg·mL)	Plunger Position	Pressure (mmHg)
These will be calculated in Excel[®]. Submit your spreadsheet and your graphs.			5	
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Average *k* = _____

Be sure to show your 2 properly formatted graphs on the laptop or your device to your instructor to receive credit for this part of the experiment OR they may instruct you to take a photo of your graphs to submit with this report to Canvas.

Questions

- 1) On your linear graph, do any points deviate from the straight line?
- 2) Write down the equation of the trendline ($y = mx + b$) from your linear graph. How does the slope (m) compare to the average $P \cdot V = k$ value from the table of data?
- 3) Using the equation of your trendline, solve for the pressure at a volume of 2.0 mL.
Hint: $x = 1/V$ in your equation!
- 4) Why must the temperature be constant during this experiment? Use observations from your experiment and the graphs to support your answer!
- 5) If you repeated this experiment at a higher temperature, how would the P vs. V curve obtained differ from the curve on your 1st graph?
- 6) You have a 1.00 L sample of Argon gas at 700.0 mmHg. You decrease the pressure to 500.0 mmHg. What is the new volume?
- 7) Describe (quantitatively) what you would do to the volume of a container of gas if you wanted to double the pressure inside.