

Expt. 1 Rubric

Note: Always credit the work of others (i.e. write your lab partner's name at the top of your report)

Introduction: Statement of the problem (What is the goal of this experiment? What are we ultimately trying to measure, calculate, and describe? Why is this worth doing?) and a brief summary of procedure. Also include a simple diagram of the experiment with all its components labeled as well as all major equations used in your calculations.
(Minus 1 point for not doing this part)

Measurements (and brief discussion of error for each):

Part I:

Period and length of string (include all data and mean values for each angle)
Associated uncertainties for period and string length.

Part II:

Time difference, angle, length (from rangefinder)
Associated uncertainties for time difference, angle, length (from rangefinder)

Graph:

Graph showing period as a function of angle (this is to show that the small angle approximation breaks down at a certain point). Graph should always include: Title, labeled axes with units. Include error bars and discuss their meaning.

Discuss the trend of the plot and its meaning. Also, explain which data you chose from this plot to use in your calculation of g and why you chose it.

Calculations/Error Analysis: Computation of R , g , and ρ and propagation of uncertainty for each.

R and its associated uncertainty
 g and its associated uncertainty
 ρ and its associated uncertainty

Conclusion/Discussion:

Compare the calculated values and their uncertainties to the published values using results obtained from analysis. This means indicating whether your results are acceptable and why.

Speculate any significant systematic errors that were not taken into account and how these contribute to your conclusions above.

Also, mention random errors that were present in your experiment and what you did or could have done to decrease their contributions to the total uncertainties calculated in the analysis. (Do not simply give a laundry-list of remote possibilities)

NOTE: "Human error" conveys no useful information.