**Type at the top of the first page (1 point):**

**Title of the exercise; Your name (prominent); Date of the Experiment; TA’s name; Lab Section number.**

**Beginning of the new page – page 2:**

**Experimental Data section (1points)**

In the table below present the raw data that will be used for further calculations in Data Analysis.

**Hollow cylinder**

|  |  |  |  |
| --- | --- | --- | --- |
| Dimension | Mean value, unit | Stand. Deviation, unit | Error (stan.dev.of the mean Logger Pro), unit |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

(Add/delete rows as needed)

**Important:** All Logger Pro statistics graphs need to be attached at the end of the lab report. The graphs can also be inserted as a picture under the tables.

**Data analysis section (4 points)**

1. Volume calculations and its Error Propagation

* 1. The equation that was used to calculate volume of the Hollow cylinder is:

Equation:

Calculations:

* 1. The standard deviations of the mean for each dimension found with the following equation:

Equation:

Calculations:

* 1. The error propagated in the volume of the hollow cylinder using the partial derivative method will be:

Equation:

Calculations:

**Report the Result with its error: (1point)**

The correct format to report the volume and its error is to

* report the error to one significant figure **unless** that one significant figure equals to 1, then use the following significant figure;
* make sure the value of mean volume is reported to the same number of decimal places as the error;
* report the whole result (volume +/- its error) in scientific notation

**Conclusion: (2 points)**

Explain the concepts of the error propagation and show how the calculated result for volume and its error show the concept of error propagation.