LAB: ALUMINUM FOIL

Students: Please read the following information given below, and then come to class on your lab day with the following already prepared in your notebooks:

1) Date, 2) Partner, 3) Title, 4) Purpose, 5) Materials, 6) Safety,
7) Procedures/Observations, and 8) Data & Calculations (collect data in your notebooks)

The last 2 pages need to be printed out. These pages will be turned in. Data for this lab should be collected in your notebooks and later, rewritten in the Data and Calculations section. The data, calculations, and questions will be due 3 class days after performing the lab in class.

Aluminum foil can be purchased from the grocery store as either "heavy duty" or "regular". The task for this lab is to determine the thickness of two different pieces of aluminum foil (heavy duty and regular). Obtain a square and rectangular piece of aluminum foil. Using your thumb and forefinger, try to determine which has the greater thickness.

Since the pieces of aluminum foil aren't exactly square or rectangular, measure the length and width of each piece of aluminum foil carefully using a centimeter ruler along different parts of each piece (remember sig. figs.). To the best of your ability, try to determine the _average_ length and width. Enter the average measurements in DATA TABLE A., being as accurate and precise as one can. Determine the mass of each piece of aluminum foil and enter these values as well.

For each piece of aluminum foil, calculate the area. The density of aluminum foil will be useful in determining the volume and thickness of each piece. Write in the formulas for area, volume, thickness, and percent area in DATA TABLE B. Show all calculated work (units included) under the square and rectangle columns.

Finally, enter the final answers in DATA TABLE C.

Don't forget to express answers using the correct number of significant figures and scientific notation for any values less than 0.1.

By the end of this lab, the thickness for each type of foil must be calculated. These values must then be shown to the teacher; in return, the teacher will give the actual values for the thicknesses (posted on the board). Using the actual values and your experimental values, determine your percentage of error in your measurements.

Name_____   Date_____
Period_____   Lab Group #_____

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1. What type of measurement was completed when you used your thumb and forefinger to determine which piece of foil was thicker? _____

DATA TABLE A: **Remember to use proper significant figures.**

Al piece	Length (cm)	Width (cm)	Mass (g)
SQ			
REC			

2. State what was done to ensure (a) accuracy and (b) precision of the measurements taken above?

(a) _____

_____

(b) _____

_____

DATA TABLE B: Calculations: SHOW ALL WORK!!!!

Write in Formulas Below	Square	Rectangular
a. area =		
b. volume =		
c. thickness =		
d. percent error =		

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DATA TABLE C: Overall answers, show units: No calculations necessary

Al piece	Area	Volume	Experimental Thickness	Actual Thickness	% error
SQ					
REC					

3. What type of measurements have you just completed? _____

4. Using procedural steps, describe how one would determine the thickness of the metal that makes up the side of a soda can.