CHEM 1030L — Measurements II   **Laboratory Report**

Name: _____   **Date:** _____   **Section:** _____

Lab Report Instructions: *Enter text or data in the* YELLOW *fields. Copy results from the Calculations sheets into the* BLUE *fields. The highlights are provided to clarify where data, text, and calculation results should be entered by the student. The completed lab report should be printed for the instructor in black & white or gray scale.*

Purpose
Instructions*: Using 2-4 complete sentences written in third person with proper grammar and punctuation, briefly summarize the purpose of this laboratory exercise. Include the learning objectives and the major outcomes.*

**Write the purpose of this Lab Exercise here…**

Data Collection
Hint: ALWAYS include units of measurement and the correct number of sig. figs.

Part A: Determine the length and width of one floor tile

	in	cm (to nearest 0.1 cm)
Length of Tile		
Width of Tile		

Write conversion factors (1) between tiles and inches and (2) between tiles and centimeters

Hint: Invert the first conversion factor to get the second

(1) # Tiles to # inches:	———	OR	———	
(2) # Tiles to # centimeters:	———	OR	———	
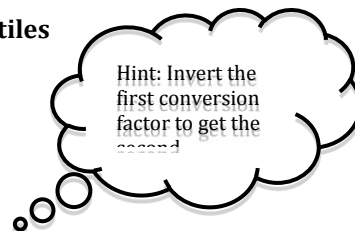
Part B: Determine the length and width of the room in tiles

Length	
Width	

Part C: Determine the height of one brick in the wall

	in	cm (to nearest 0.1 cm)
Height of Brick of Tile		

Write conversion factors (1) between bricks and inches and (2) between bricks and centimeters

(1) # Bricks to # inches:	——— **OR** ———
(2) # Bricks to # centimeters:	——— **OR** ———
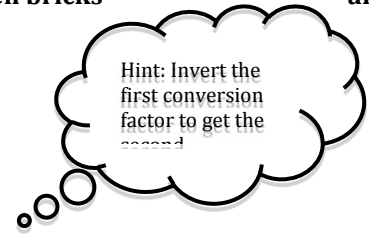
Part D: Determine the height of the chemistry lab, in bricks.

Height	

Part E: Determine the area of the chemistry lab.

	In m^2	In ft^2
Area of Lab		

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Part F: Determine the volume of the chemistry lab.

	In m^3	In ft^3
Area of Lab		

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Part G: Determine the mass of air that fills the entire chemistry lab, in kg.

Mass of Air in Lab	

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Part H: Estimate the mass of people in the chemistry lab, in kg.

Mass of People in Lab	

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Part I: Determine how many cm^3 are in 1 m^3.

Number of cm^3 in 1 m^3	

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Write two conversion factors between cm³ and m³.

cm³ to # m³: ———————— **OR** ————————

Part J: Express the density of air (1.293 kg/m³) in units of g/cm³.

Density of air	

<–– Perform calculation in Calculations section and place resulting answer(s) here.

Questions and Analysis

INSTRUCTIONS: Using one or more complete sentences written in third person with proper grammar and punctuation, briefly respond to the following questions.
Hint: *Remember that points are awarded for each aspect of the question.*

1. **Is the mass of the air in the chemistry lab more or less than the mass of all of the people in lab?** Explain how you arrived at your answer. Be sure to perform any need calculations in the Calculations section of the report.
   Type the response here...

2. **How precise are your calculations? How many significant figures do the reported results have? Explain what factor(s) limit the number of significant figures.**
   Type the response here...

Conclusion

*INSTRUCTIONS: Write an essay, using complete sentences, written in **third person** with proper grammar and punctuation, to **briefly summarize** (1) the purpose of this laboratory exercise, (2) the work that was performed, (3) observations made, (4) any problems encountered and how they could affect the results, and (5) the deliverable(s) (mass of air in the lab).*
Use paragraphs *to separate major ideas, however, do not number the paragraphs.*
   Type the Conclusion here...

Insert Calculations section here