CHEM 1094: MEASUREMENT AND WEIGHING

Date:_____ Name:_____Lab Day/Time:_____

Objective

To become familiar with various instruments used for measuring and weighing, and to determine the density and identity of an unknown object.

Procedure

As in Chem 1094 lab manual, pages _____

Observations

In the space below, describe your object. Is it round? Square? Triangular? Is it small or large? What colour is it? Does it have a smooth or rough surface? Does it have an odour? Draw (and label) a picture of it if this helps you.

Data

Table 1. Measurements of water temperatures

Thermometer Range and Uncertainty	**____ to ____ ±_____°C**	**____ to ____ ±_____°C**	**____ to ____ ±_____°C**
Temperature	**Near Boiling Water**	**Near Room Temperature**	**Ice Water**
Actual Temperature			

Table 2: Measurements of a regular-shaped object

Number & Shape_____	**Centimetre ruler (± 0.05 cm)**	**Digital calipers (± 0.01 mm)**
Dimension #1		
Dimension #2		
Dimension #3		
Mass #1 (top loading)		
Mass #2 (analytical)		

Calculations

Calculate the volume and density of the object in Part II, paying careful attention to the number of significant digits that should be recorded for each. Show all calculations. Also put your answers in the Results tables.

Volume:

Density:

Results

Table III: Calculated volume

Number & Shape_____	Centimeter ruler	Digital calipers
Volume (calculated)		

Table IV. Calculation of density

Density Calculated Using:	Top Loading balance/ cm ruler	Analytical balance/ cm ruler	Top Loading balance/ Digital calipers	Analytical balance/ Digital calipers
Density				

Conclusion

From the four densities above, restate the density of your object, using only the value which you determined from the most accurate measuring devices. Use a sentence.

Question

Answer any assigned questions from the lab manual. Explain how you came to your answer.