Name_____

Honors Chemistry
Density Lab
DO NOT FORGET UNITS!!!

Purpose- practice using lab equipment, and doing calculations using sig figs. This is a sig fig based lab. You need to read the equipment to the correct number of sig figs and make your calculations to the correct number of sig figs.

Measuring volume

Using a 250 mL beaker measure out exactly 50 mL of water. Pour this into a graduated cylinder and measure the volume of water. Repeat this a total of 3 times.
The graduated cylinders being used are accurate to the tenths place, x.x mL. Zero points will be given on this section if you do not read to the tenths place.

Volume   1 _____   2_____   3_____

All calculations need to be reported to the correct number of sig figs! Do not take more supplies than you need, there is not enough for every group to have 1 of everything at once.

Regular Solids-Density Blocks   Volume of each cube __15.6 mL__

Mass of cube   1_____   2_____   3_____   4_____

                              5_____   6_____   7_____   8_____   9_____

Density of cube   1_____   2_____   3_____   4_____

                              5_____   6_____   7_____   8_____   9_____

<u>Regular Solid</u>- Large cube   letter _____

These rulers are accurate to the hundredths place, x.xx cm. (recheck the notes titled reading between the lines) If you do not read them to the hundredths place, zero points will be given for this section. Remember to measure as accurately as you can (estimate 1 position). Measure in <u>centimeters</u>! Your first volume will be in cm^3, which is the same as mL.

The mass is written on the cube

mass_____   length _____ width_____ height_____

Calculate its volume

Determine its density

<u>Regular Solids</u>-Large cube   letter _____

mass_____   length _____ width_____ height_____

Calculate its volume

Determine its density

<u>Liquid</u>- Tap Water – pour an amount of water into a graduated cylinder.
        Check your notes if you do not know how to determine its mass.
The graduated cylinders being used are accurate to the tenths place, x.x mL. Zero points will be given on this section if you do not read to the tenths place.

Mass of water_____

Explain how you got the mass of the water

Volume_____

Density of water
(show work)

<u>Irregular solid</u>- Aluminum
        mass_____
The graduated cylinders being used are accurate to the tenths place, x.x mL. Zero points will be given on this section if you do not read to the tenths place. Using a graduated cylinder determine volume of aluminum (**you must have at least 5.0 mL of aluminum,** zero points will be given if you do not read the cylinders to the tenths place or have at least 5.0 mL).

Determine its density

Questions

1.Using the internet, find the density of aluminum. Calculate your percent error of your density of aluminum.
Percent Error = (|observed value – actual value| / actual value)   x 100
Your observed value will be the value you obtained in the lab, actual value will be the value you looked up.
(if you find density in kg/m^3 divide by 1000 to get g/mL)

2. Which of your density blocks would float in water? Explain how you know.