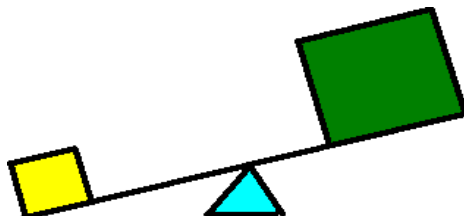


Density Quiz (20 pts.)

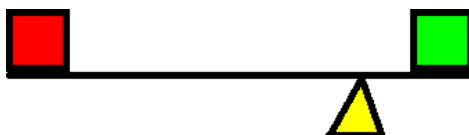
READ THE DIRECTIONS FOR EACH QUESTION!!

1. What is the formula for density? (1pt.)

2. Look at the picture below. Which cube is **MORE** dense? **Circle** your answer. (1pt.)



3. Look at the picture below. Which cube is **LESS** dense? **Circle** your answer. (1pt.)



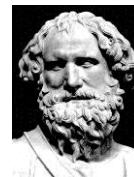
4. We studied Cartesian Divers. A picture of a sealed one is below. How does **the diver** change shape as one applies pressure to the sides of the bottle (or uses an air pump)? **Draw** your answer to the right of the picture. Yes, just **the diver**, not the bottle! (1pt.)



5. Why does the diver (the one you drew above) sink when the bottle is squeezed? Be sure to mention volume and density in your answer. (3pts.)

Extra Credit (1pt.)

What is the name of the scientist that is credited for the density relationship and used it to discover that the king's crown wasn't fully made of gold? (Spelling counts!)

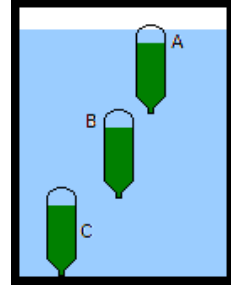


6. Look at the picture on the right. The diver is **stationary** (not moving) at each location (A, B, C). Compare the density of the diver in relation to water at each location. $>$ or $<$ or $=$ (3pts.)

Position A: Density of **Diver** _____ Density of **Water**

Position B: Density of **Diver** _____ Density of **Water**

Position C: Density of **Diver** _____ Density of **Water**



7. An object's mass is measured to be 242 grams. It is irregularly shaped, so you use a graduated cylinder to obtain its volume. Both cylinders measure in mL, zero being the bottom, and 1 mL increments going upward. (5pts.)

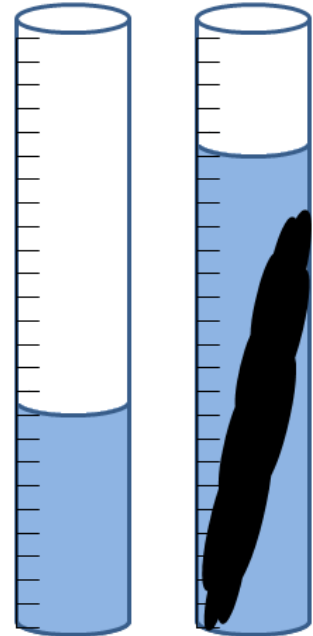
1. Write the density equation (1st question on the front)

2. Plug in your numbers to the equation.

3. Solve the equation (your answer).

4. Write correct units for your answer.

5. Predict whether the object will float in water.



8. **Performance Task** (5pts.): Calculate the **density** of the object at the scales. Measure the **mass** by using the scale. Obtain the **volume** by measuring each side (in cm) and multiplying. You **MUST**:

1. Write the density equation (1st question on the front)

IMPORTANT!
I have cube # _____

2. Plug in your numbers to the equation.

3. Solve the equation (your answer).

4. Write correct units for your answer.

5. Predict whether the object will float in liquid nitrogen (Liquid Nitrogen's density is 0.8g/cm^3).