Name_____

- **2**. Define volume?
- 3. Define density and show the formula for calculating density.
- **4.** Aluminum is used to make airplanes. Cast iron is used to make weightlifting equipment. Explain why the densities of these metals make them useful for these purposes?
- 5. What is the density of water?

Remember for water 1g=1ml=1cm³

6. Why does an air bubble rise to the surface of a glass of water?

7. Calculate the densities of the following objects. Remember to SHOW WORK and place units after each number.

<u>Object A</u>	length = 6.2cm	width = 3.4cm	height = 1.2cm	mass = 36.7g
	volume =			
	density =			
<u>Object B</u>	length = 10.8cm	width = 5.4cm	height = 2.2cm	mass = 300.8g
	volume =			
	density =			
<u>Object C</u>	Determine the density of object C (silly putty) using the information below			
	Initial water level in graduated cylinder = 25ml Final water level after placing silly putty into graduated cylinder = 29 Mass of silly putty = 8g			
	volume =			
	density =			
	What is this method called?			

8. Place a "X" on the line if the object listed will float in water (density 1 g/ml)?

- A. $air = .001 \text{ g/cm}^3$
- B. corn oil = $.93 \text{ g/cm}^3$
- C. glycerin = 1.26 g/cm^3
- D. corn syrup = 1.38 g/cm^3
- E. wood = $.85 \,\text{g/cm}^3$
- F. steel = 7.81 g/cm^3
- G. rubber = 1.34 g/cm^3
- H. ice = $.92 \text{ g/cm}^3$
- I. water = 1.00 g/cm^3
- 9. Assuming the materials don't mix, show how the materials would "stack up" in a graduated cylinder.

Use the letters from above and the cylinder sketch to the right to record your answer.



10. Does ice float or sink in water? Support your answer using the concept of density?