**Density as a Conversion Factor**

Density = mass = grams \*As a conversion factor, it converts **g to ml** or **ml to g**

Volume ml or cm3

*Show ALL work using dimensional analysis.*

1. If an unknown solid weighs 84.0 grams and occupies 30.0 cm3 of space, what is its density?
2. What is the mass (g), of a liquid having a density of 1.50 g/ml and a volume of 3.5 liters?
3. What is the volume(cm3) of a 200 gram sample of gold if its density is 20.5 g/cm3?
4. A solid block of substance is 74.0 cm by 55.0 cm by 29.0 cm and it weighs 625 kg. Determine the density. Would it float in water? The density of water is 1 g/cm3 .
5. A gas has a volume of 7.0 liters and a mass of 444 grams. What is its density?
6. A certain liquid has a density of 0.855 g/mL. If the mass of a sample of the liquid 1.00 kg what is the volume in mL? (Don’t forget to convert kg to grams before solving!)