1. Calculate the **porosity** of a 250 cm3 sample that contains 140 cm3 water when saturated.
2. Calculate the **porosity** of a 250 g sample that contains 65 g of water when 55% of the pores are full of water. Assume rock particle density=2.65 g/cm3 and water density= 1.0 g/cm3
3. A core sample coated with paraffin immersed in a container of liquid displaced 10.9 cm3 of the liquid. The weight of the dry core sample was 20.0 g, while the weight of the dry sample coated with paraffin was 20.9 g. Assume the density of the solid paraffin is 0.9 g/cm3.Calculate the **bulk volume** of the sample.
4. If the core sample from **problem 3** was stripped of the paraffin coat, crushed to grain size, and immersed in a container with liquid. The volume of liquid displaced by the grains was 7.7 cm3. **Calculate the matrix volume and the core porosity.** Is this effective porosity or total porosity?
5. For the following data, calculate **the** **pore and bulk volumes and the porosity**. Is this porosity total or effective?

Dry weight of sample, Wdry = 427.3 g

Weight of sample saturated with water, Wsat = 448.6 g

Density of water (ρf ) = 1.0 g/cm3

Weight of saturated sample submerged in water, Wsub = 269.6 g