DENSITY

Answer these questions on a separate page in the correct scientific manner including:
a) Equation b) Substitution of values and c) Solution with units.

1. A block has a mass of 100 grams and measures l = 10 cm, w = 10 cm, h = 2 cm. Find its volume and density.

2. A steel cube (iron) has a mass of 78.6 grams and a volume of 10 cm^3.
    a)   Calculate the density of the iron cube.

    b)   What is the density of iron as given in your Table of Properties?

3. A cube has a mass of 89.5 grams and a volume of 10 cm^3.
    a) Calculate the density of the cube.

    b) Look in the Table of Properties to determine if the cube is aluminum, carbon, copper or gold.

4. Describe in your own words how to determine the density of a regularly shaped block.

5. A stone has a mass of 150 g and causes the water level in a graduated cylinder to rise from 50 mL to 75 mL when placed in it.
    a) Calculate the density of the stone.
    b) Will this stone float or sink in water?   Give a reason.

6. A stone displaces 10 mL of water.
    c) What is the volume of the stone (use correct units)?
    d) If the stone has a density of 6 g/cm3, what is the mass of the stone?

7a) A piece of volcanic pumice causes the water level in a cylinder to rise from 50 to 60 mL. If the pumice has a mass of 9 grams, what is the density of the pumice?

7b). Will the pumice float or sink in water? WHY?

7 c). Is there any reason to doubt the results reported in 7a) ?

8). What is the volume of an unknown liquid with a density of 1.35 g/ml if you have a 54 g sample?