Name: Density HW Day 1

1. A solid ball has a mass of 50 grams and a volume of 20 cm³. What is the density?

2. A solid cylinder has a radius of 2 cm and a length of 7 cm. It has a density of 3.1 g/cm³. What is the mass of the cylinder?

3. In 2011, Tokyo, Japan had a total population of about 13,191,000 people. If the city covers an area of 2188 square kilometers, what was the population density of Tokyo per square kilometer?

4. In 2010, the state of Missouri had a population density of 87.3 people per square mile. If the area of the state is 69,704 square miles, estimate the population of the state in 2010.

5. A piece of wood that measures 3.0 cm by 6.0 cm by 4.0 cm has a mass of 80.0 grams. What is the density of the wood? Would the piece of wood float in water? (Hint: water density = 1 g/cm³)

6. I threw a plastic ball in the pool for my dog to fetch. The mass of the ball was 125 grams. What must the volume be to have a density of 0.500 g/mL. (I want it to float of course!)