**Density Problems**

*Solve the following problems showing all your work including equations and units*.

1. Calculate the mass of a liquid with a density of 3.2 g/mL and a volume of 25 mL. (answer = 80 g)
2. Calculate the density of a 500 g rectangular block with the following dimensions: length=8 cm, width=6 cm, height=5 cm. (answer = 2.1 g/cm3)
3. Calculate the mass of a solid metal cylinder with a density of 2.6 g/cm3, a diameter of 1.8 cm, and a length of 4 cm. (answer = 26.5 g)
4. An irregular object with a mass of 18 kg displaces 2.5 L of water when placed in a large overflow container. Calculate the density of the object. (answer = 7.2 kg/L or 7.2 g/mL or 7.2 g/cm3)
5. A graduated cylinder has a mass of 80 g when empty. When 20 mL of water is added, the graduated cylinder has a mass of 100 g. If a stone is added to the graduated cylinder, the water level rises to 45 mL and the total mass is now 156 g. What is the density of the stone? (answer = 2.24 g/mL or 2.24 g/cm3)