

Please answer all questions as completely as possible showing all calculation and work needed. Also don't forget to include your units!

$$\text{Density} = \text{Mass} / \text{Volume}$$

- 1) Rearrange the density equation for the following:

$$\text{Mass} =$$

$$\text{Volume} =$$

- 2) Calculate the density of a material that has a mass of 52.457 g and a volume of 13.5 cm³.

- 3) A student finds a rock on the way to school. In the laboratory he determines that the volume of the rock is 22.7 mL, and the mass is 39.943 g. What is the density of the rock?

- 4) The density of silver is 10.49 g/cm³. If a sample of pure silver has a volume of 12.993 cm³, what is the mass?

- 5) What is the mass of a 350 cm³ sample of pure silicon with a density of 2.336 g/cm³?

- 6) Pure gold has a density of 19.32 g/cm³. How large would a piece of gold be if it had a mass of 318.97 g?

- 7) The density of lead is 11.342 g/mL. What would be the volume of a 200.0 g sample of this metal?

- 8) The mass of a toy spoon is 7.5 grams, and its volume is 3.2 mL. What is the density of the toy spoon?

- 9) A mechanical pencil has the density of 3 grams per cubic centimeter. The volume of the pencil is 15.8 cubic centimeters. What is the mass of the pencil?

- 10) A screwdriver has the density of 5.5 grams per cubic centimeter. It also has the mass of 2.3 grams. What is the screwdriver's volume?