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## Density Problems

Solve the following problems using the GRASSS method.

1. Calculate the mass of a liquid with a density of $3.2 \mathrm{~g} / \mathrm{mL}$ and a volume of 25.0 mL .
2. Calculate the density of a 500.0 g rectangular block with the following dimensions: length $=8.0 \mathrm{~cm}$, width $=6.0 \mathrm{~cm}$, height $=5.0 \mathrm{~cm}$.
3. Calculate the mass of a solid metal cylinder with a density of $2.6 \mathrm{~g} / \mathrm{cm}^{3}$, a diameter of 1.8 cm , and a length of 4.0 cm .
4. An irregular object with a mass of 18.0 kg displaces 2.5 L of water when placed in a large overflow container. Calculate the density of the object.
5. A graduated cylinder has a mass of 80.0 g when empty. When 20.0 mL of water is added, the graduated cylinder has a mass of 100.0 g . If a stone is added to the graduated cylinder, the water level rises to 45.0 mL and the total mass is now 156.0 g . What is the density of the stone?
