**Solving Density Problems**

If 96.5 grams of gold has a volume of 5 cm$^3$, what is the density of gold?

$$D = \frac{M}{V}$$

Substitute values into formula

Solve

$$D = \frac{96.5\text{g}}{5\text{cm}^3}$$

$$D = 19.3\text{g/cm}^3$$

**Finding Mass from Volume and Density**

If the density of a diamond is 3.5 g/cm$^3$, what would be the mass of a diamond whose volume is .5 cm$^3$?

$$M = D \times V$$

Substitute number and units

Solve

$$M = 3.5\text{g/cm}^3 \times .5\text{cm}^3$$

$$M = 1.8\text{g}$$

**Finding Volume from Density and Mass**

If a 96.5g piece of aluminum has a density of 2.7 g/cm$^3$, what is its volume?

$$V = \frac{M}{D}$$

Substitute numbers and units

Solve

$$V = \frac{96.5\text{g}}{2.7\text{g/cm}^3}$$

$$V = 35.7\text{cm}^3$$
Solving Density Problems

If 96.5 grams of gold has a volume of 5 cm$^3$, what is the density of gold?

\[ D = \frac{M}{V} \]

Substitute values into formula

Solve

\[ D = \frac{96.5 \text{ g}}{5 \text{ cm}^3} \]

\[ D = 19.3 \text{ g/cm}^3 \]

Finding Mass from Volume and Density

If the density of a diamond is 3.5 g/cm$^3$, what would be the mass of a diamond whose volume is .5 cm$^3$?

\[ M = D \times V \]

Substitute number and units

Solve

Determining Mass

\[ M = 3.5 \text{ g/cm}^3 \times .5 \text{ cm}^3 \]

\[ M = 1.8 \text{ g} \]

Finding Volume from Density and Mass

If a 96.5g piece of aluminum has a density of 2.7 g/cm$^3$, what is its volume?

\[ V = \frac{M}{D} \]

Substitute numbers and units

Solve

Finding Volume from Density and Mass

\[ V = \frac{96.5 \text{ g}}{2.7 \text{ g/cm}^3} \]

\[ V = 35.7 \text{ cm}^3 \]