1.) Given that the density of hexane is 0.659 g/ml, calculate the volume of a 34.65 milligram sample of hexane.

State the problem.

We know that

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

Give constants and equations necessary to the solving of the problem. Include units.

Solving for Volume..

Annotation...

$$D \cdot V = m \qquad \text{or} \qquad V = \frac{m}{D}$$

Set up the physical application of the problem.

Converting the mass into grams

Annotation...

$$34.65 \, mg \cdot \left(\frac{1 \cdot gram}{1000 \, mg} \right) = 0.03456 \, gm$$

Solving
$$V = \frac{m}{D} = \frac{0.03456 \, gm}{0.659 \frac{gm}{ml}}$$

Show substitutions into applicable expressions. Solve equations explicitly with complete units, significant digits and annotations

$$V = .0524 \cdot ml$$

Highlight answer by box, or underline or some other delineation. Include correct significant figures.

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