

Group B questions, Chapter 1

Note Title

1/18/2006

#4

$$\rho = \frac{0.92 \text{ g}}{\text{cm}^3}$$

5,000. gms of Ice;

added the decimal point because this is not a measured quantity, but a theoretical value.

what's its volume?

$$\rho = \frac{\text{mass}}{\text{volume}}$$

$$\rho \cdot \text{volume} = \frac{\text{mass}}{\cancel{\text{volume}}} \cdot \cancel{\text{volume}} = \text{mass}$$

$$\frac{\cancel{\rho} \cdot \text{volume}}{\cancel{\rho}} = \frac{\text{mass}}{\rho}$$

$$\left| \text{volume} = \frac{\text{mass}}{\rho} \right|$$

So for mass = 5000. g

$$\rho = 0.92 \text{ g/cm}^3$$

$$\text{volume} = \frac{5000. \cancel{\text{g}} \cdot \text{cm}^3}{.92 \cancel{\text{g/cm}^3} \cancel{\text{cm}^3}} = \frac{5000.}{.92} \text{ cm}^3$$

$$= \underline{5434.78 \text{ cm}^3}$$

$$= 5400 \text{ cm}^3$$