

Date _____
Page _____

Home work

$$2. \quad 600 \text{ kg/m}^3 \rightarrow \text{g/cm}^3$$

$$~~1 \text{ kg/m}^3 \rightarrow 1000 \text{ g/l}~~$$

$$~~1000 \text{ kg/m}^3 \rightarrow 1 \text{ g/cm}^3~~$$

$$~~600 \text{ kg/m}^3 \rightarrow 0.6 \text{ g/cm}^3~~$$

1. Density = $\frac{M}{V}$

Density of alcohol - 600 kg/m^3

$$1 \text{ kg/m}^3 = \frac{1000 \text{ g}}{1000000 \text{ cm}^3}$$

$$600 \text{ kg/m}^3 = \frac{600000 \text{ g}}{1000000 \text{ cm}^3}$$

$$= \frac{6}{10} \text{ g/cm}^3$$

$$= 0.60 \text{ g/cm}^3$$

$$2. \quad \text{Density} = \frac{M}{V}$$

$$M = 150g$$

$$V = 200 \text{ cm}^3$$

$$\frac{\cancel{150}g}{\cancel{200} \text{ cm}^3} = \frac{2150g}{200 \text{ cm}^3}$$

$$= \frac{15 \times 10}{20 \times 100} = \frac{75g}{100 \text{ cm}^3} = 0.75 \text{ g/cm}^3$$

$$3. \quad \text{CGS unit} = 0.75 \text{ g/cm}^3$$

$$1 \text{ g/cm}^3 = 1000 \text{ kg/m}^3$$

$$0.75 \text{ g/cm}^3 = 0.75 \times 1000 \text{ kg/m}^3$$

$$= 750 \text{ kg/m}^3$$

$$\text{S.I unit} = 750 \text{ kg/m}^3$$

$$3. \text{ Mass} = 72 \text{ g}$$

$$V_2 = 42 \text{ ml}$$

$$V_1 = 24 \text{ ml}$$

$$V_2 - V_1 = \text{Volume of water displaced,}$$

$$= \text{Volume of object}$$

$$= 42 - 24 \text{ ml}$$

$$= 18 \text{ ml}$$

$$\boxed{1 \text{ ml} = 1 \text{ cm}^3}$$

$$= 18 \text{ cm}^3$$

$$\text{Density} = M / V$$

$$= \frac{72}{18} \text{ g/cm}^3$$

$$= 4 \text{ g/cm}^3$$

4. When the temperature increases, volume of most of the liquids increase ~~which~~ and when volume increases density decreases.
5. It is a object filled with liquid and a stopper is inserted. The excess liquid comes out from the hole and drains. This bottle will contain the same volume of liquid each time when it is filled.