

Daily HW - 30/07/21

1. a) mass = 103 gm = 0.103 kg = 103×10^{-3} kg
 $V = 10 \text{ cm}^3 = 10 \times 10^{-6} \text{ m}^3$

→ Volume =

$$\text{Density} = \frac{M}{V} = \frac{103 \times 10^{-3} \text{ kg}}{10 \times 10^{-6} \text{ m}^3}$$

$$= \frac{103/1000 \text{ kg}}{10/1000000 \text{ m}^3}$$

$$= \frac{103 \times 1000000}{10000 \times 10}$$

∴ R.D of silver = 10300 kg/m³.

$$= \frac{\text{D of silver}}{\text{D of water}}$$

$$= \frac{10.3 \text{ g/cm}^3}{1 \text{ g/cm}^3}$$

$$= 10.3$$

2. M = 150g

V = 200 cm³

→ $D = \frac{150 \text{ g}}{200 \text{ cm}^3} = \frac{3}{4} \text{ g/cm}^3$ (C.G.S unit)

$$\frac{3}{4} \text{ g/cm}^3 = \frac{3}{4} \times \frac{1000}{1000} \text{ kg/m}^3$$

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

3. As the temperature increases, volume of most fluids decrease and when temperature decreases, the volume increases.
4. The ratio of density of the given substance to the density of ~~the~~ water is known as Relative density. It has No unit.
5. If density of the body increase, then the level of flotation will go ~~inside~~ downward i.e. the body will sink and vice versa. When density of liquid increases, the body goes upward that is, it tends to float.
6. The Law of floatation states that a body when emerged in liquid, displaces a liquid equal to its own mass.
7. a) Liquid C
b) Liquid A
c) Liquid C.