

1 density of alcohol = 600 kg/m^{-3}

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

$$\text{So, } 600 \text{ kg/m}^3 \text{ in g/cm}^3 = \frac{600000}{1000} \text{ g/cm}^3$$

2

$$a) \frac{D}{\rho} = \frac{M}{V} \quad D = \frac{150 \text{ g}}{200 \text{ cm}^3} = 1.25 \text{ g/cm}^3$$

$$b) D = \frac{M}{V} \quad D = \frac{150 \text{ g}}{200 \text{ cm}^3} = 1.25 \text{ g/cm}^3 = 1250 \text{ kg/m}^3$$

3

mass of solid = 72 g

difference in the initial and final volume of water = $42 - 24 = 18 \text{ ml} = 18 \text{ cm}^3$

$$\text{So, density of the solid} = \frac{72 \text{ g}}{18 \text{ cm}^3} = 4 \text{ g/cm}^3$$

4

The density of a gas or a liquid decreases with increase in temperature

5

A density bottle is a glass bottle which is used to measure volume of liquid. The bottle has a stopper out of which extra liquid comes out, so it only holds a definite volume of liquid each time.