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Physical quantity and measurement

Numerical

1.) a) the density of air is 1.28 g/l
it is in $\text{g cm}^{-3} = \frac{1.28}{1000} = 0.00128 \text{ g cm}^{-3}$

b) $1.28 \text{ g/l} = \frac{1.28 \times 1000}{1000} = 1.28 \text{ kg m}^{-3}$

2.) the dimension of ball $10 \text{ m} \times 7 \text{ m} \times 5 \text{ m}$
 $V = 350 \text{ m}^3$

density of air = 1.1 kg m^{-3}

$M = V \times D = 350 \times 1.1 = 380.5 \text{ kg}$

3.) In $\text{kg/m}^3 = \frac{27 \times 1000}{10} = 2700 \text{ kg/m}^3$

4.) density of alcohol = 600 kg/m^{-3}
 $\text{g/cm}^3 = \frac{600}{1000} = 0.6 \text{ g/cm}^3$

5.) mass of zinc = 438.6 g
 $V = 86 \text{ cm}^3$

$d = \frac{M}{V} = \frac{438.6}{86} = 5.1 \text{ g/cm}^3$

6.) mass of wood = 6000 kg

density = 0.8 g/cm^3

$d = 0.8 \text{ g/cm}^3 = 0.8 \times 1000 = 800 \text{ kg/m}^3$

$V = \frac{6000}{800} = 7.5 \text{ m}^3$