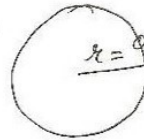


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Ex 13.8

2(1)

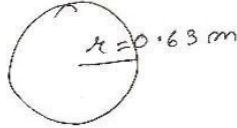


$$\begin{aligned} \text{volume} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \times \frac{22}{7} \times 7 \times 7 \times 7 \\ &= \frac{4312}{3} \\ &= 1437.33 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} \text{vol. of water displaced} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \times \frac{22}{7} \times \frac{0.21}{100} \times \frac{0.21}{100} \times \frac{0.21}{100} \\ &= \frac{0.4851}{100} \\ &= 0.004851 \text{ m}^3 \\ &= 4.851 \text{ l} \end{aligned}$$

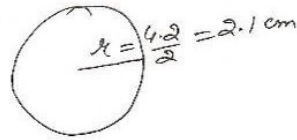
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$$\begin{aligned} \text{volume} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \times \frac{22}{7} \times 0.63 \times 0.63 \times 0.63 \\ &= \frac{22.004136}{21} \\ &= 1.047 \text{ m}^3 \end{aligned}$$

3

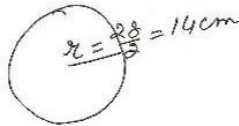


$$\begin{aligned} \text{vol.} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \times \frac{22}{7} \times 2.1 \times 2.1 \times 2.1 \\ &= 38.808 \text{ cm}^3 \end{aligned}$$

$$\text{density} = 8.9 \text{ g/cm}^3$$

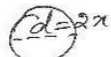
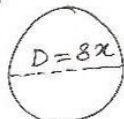
$$\begin{aligned} \text{Mass} &= V \times D \\ &= 38.808 \times 8.9 \\ &= 345.391 \text{ g} \\ &= 345.39 \text{ g} \end{aligned}$$

20



$$\begin{aligned} \text{vol. of water displaced} &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \times \frac{22}{7} \times 14 \times 14 \times 14 \\ &= \frac{34496}{3} \\ &= 11498.67 \text{ cm}^3 \\ &= 11.49 \text{ l} \end{aligned}$$

4



earth (I)

moon (II)

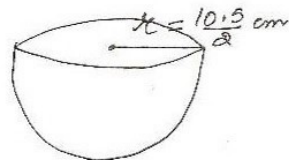
$$\begin{aligned} \text{let } D &= 8x \text{ units} & d &= \frac{8x}{4} \\ & & &= 2x \text{ units} \end{aligned}$$

$$\begin{aligned} R &= \frac{8x}{2} & r &= \frac{2x}{2} \\ &= 4x \text{ units} & &= x \text{ units} \end{aligned}$$

$$\begin{aligned} \frac{V_M}{V_E} &= \frac{\frac{4}{3} \pi r^3}{\frac{4}{3} \pi R^3} \\ &= \frac{x \times x \times x}{4x \times 4x \times 4x} \\ &= \frac{1}{16} \end{aligned}$$

$$V_M = \frac{1}{16} V_E$$

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$$\begin{aligned} \text{Capacity} &= \frac{2}{3} \pi r^3 \\ &= \frac{2}{3} \times \frac{22}{7} \times \frac{10.5}{2} \times \frac{10.5}{2} \times \frac{10.5}{2} \\ &= \frac{1212.75}{4} \\ &= 303.1875 \text{ cm}^3 \\ &= 0.303 \text{ l} \end{aligned}$$