



Exercise 20C

Q25.

Answer :

(b) 84 m

$$\text{Length} = \frac{\text{volume}}{\pi r^2 h} = \frac{66 \times 7}{22 \times 0.05 \times 0.05} = 8400 \text{ cm} = 84 \text{ m}$$

Q26.

Answer :

(a) 1100 cm³

$$\text{Volume} = \pi r^2 h = \frac{22}{7} \times 5 \times 5 \times 14 = 1100 \text{ cm}^3$$

Q27.

Answer :

(a) 1837 cm²

Diameter = 7 cm

Radius = 3.5 cm

Height = 80 cm

$$\therefore \text{Total surface area} = 2\pi r(r + h) = 2 \times \frac{22}{7} \times 3.5(3.5 + 80) = 22(83.5) = 1837 \text{ cm}^2$$

Q28.

Answer :

(b) 396 cm^3

Here, curved surface area = $2\pi rh = 264 \text{ cm}^2$

$$\Rightarrow r = \frac{264 \times 7}{2 \times 22 \times 14} = 3 \text{ cm}$$

$$\therefore \text{Volume} = \pi r^2 h = \frac{22}{7} \times 3 \times 3 \times 14 = 396 \text{ cm}^3$$

Q29.

Answer :

(a) 770 cm^3

Diameter = 14 cm

Radius = 7 cm

Now, curved surface area = $2\pi rh = 220 \text{ cm}^2$

$$\Rightarrow h = \frac{220 \times 7}{2 \times 22 \times 7} = 5 \text{ cm}$$

$$\therefore \text{Volume} = \pi r^2 h = \frac{22}{7} \times 7 \times 7 \times 5 = 770 \text{ cm}^3$$

Q30.

Answer :

(c) 20:27

We have the following :

$$\frac{r_1}{r_2} = \frac{2}{3}$$

$$\frac{h_1}{h_2} = \frac{5}{3}$$

$$\therefore \frac{V_1}{V_2} = \frac{\pi r_1^2 h_1}{\pi r_2^2 h_2} = \frac{20}{27}$$

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