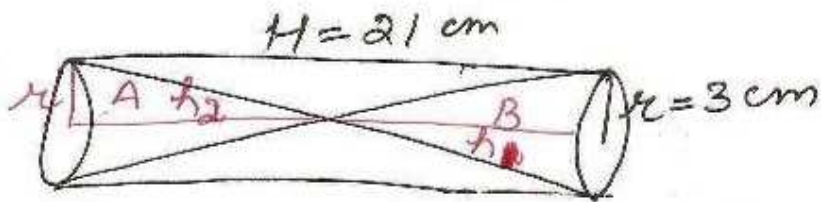


⑧



$$\begin{aligned} \text{Capacity of cylinder} &= \pi r^2 H \\ &= \frac{22}{7} \times 3 \times 3 \times 21 \\ &= 594 \text{ cm}^3 \end{aligned}$$

$$\frac{V_A}{V_B} = \frac{2}{1}$$

NCERT Exemplar Solutions by (Dev Anoop)

$$\frac{\frac{1}{3} \pi r^2 h_1}{\frac{1}{3} \pi r^2 h_2} = \frac{2}{1}$$

$$\text{let } h_1 = 2x, \quad h_2 = x$$

$$H = h_1 + h_2$$

$$21 = 2x + x$$

$$\begin{aligned} \Rightarrow x &= \frac{21}{3} \\ &= 7 \end{aligned}$$

$$\therefore h_1 = 7 \text{ cm}, \quad h_2 = 14 \text{ cm}$$

$$\begin{aligned} V_B &= \frac{1}{3} \pi r^2 h_1 \\ &= \frac{1}{3} \times \frac{22}{7} \times 3 \times 3 \times 7 \\ &= 66 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} V_A &= 2 V_B \\ &= 2 \times 66 \\ &= 132 \text{ cm}^3 \end{aligned}$$

volume of
remain. part of
cylinder

$$\begin{aligned} &= 594 - (66 + 132) \\ &= 594 - 198 \\ &= 396 \text{ cm}^3 \end{aligned}$$