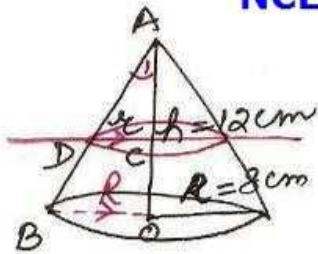


NCERT Exemplar Solutions by (Dev Anoop)

4



$\Delta ACD \sim \Delta AOB$ by AA cor.
 $\angle ACD = \angle AOB = 90^\circ$
 $\angle C = \angle O$

$$\Rightarrow \frac{AC}{AO} = \frac{DC}{BO}$$

$$\Rightarrow \frac{12}{12} = \frac{r}{8}$$

$$\Rightarrow r = 4 \text{ cm}$$

$$\frac{V_{\text{cone}}}{V_{\text{frustum}}} = \frac{\frac{1}{3}\pi r^2 \times AC}{\frac{1}{3}\pi \times CO (r^2 + R^2 + Rr)}$$

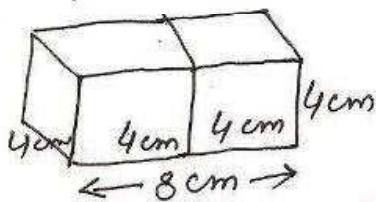
$$= \frac{4 \times 4 \times 6}{8 (4^2 + 8^2 + 4 \times 8)}$$

$$= \frac{16}{4 \times 4 (1 + 4 + 2)}$$

$$= \frac{1}{7}$$

\therefore reqd ratio = 1:7

5



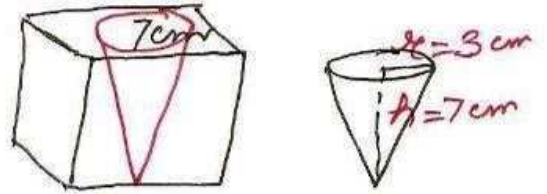
vol of 1 cube = 64 cm^3
 $e^3 = 64$
 $\Rightarrow e = 4$
 \therefore edge of cube = 4cm
 S.A. of cuboid
 $= 2(lb + bh + lh)$
 $= 2(8 \times 4 + 4 \times 4 + 8 \times 4)$

$$= 2 \times 4 \times 4 (2 + 1 + 2)$$

$$= 32 \times 5$$

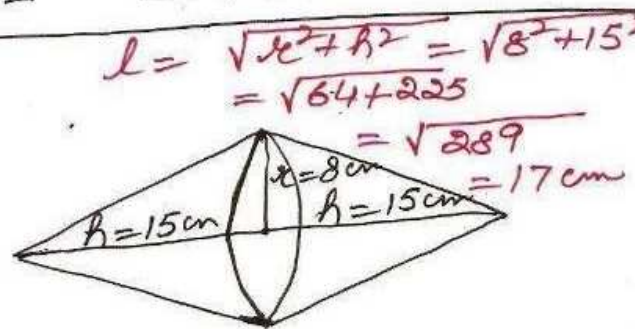
$$= 160 \text{ cm}^2$$

6



Volume of remain. solid
 $= \text{vol. of cube} - \text{vol of cone}$
 $= c^3 - \frac{1}{3}\pi r^2 h$
 $= 7^3 - \frac{1}{3} \times \frac{22}{7} \times 7 \times 3 \times 3$
 $= 343 - 66$
 $= 277 \text{ cm}^3$

7



Surface area of solid
 $= \pi r l + \pi r l$
 $= 2\pi r l$
 $= 2 \times \frac{22}{7} \times 8 \times 17$
 $= \frac{5984}{7}$
 $= 854.85 \text{ cm}^2$