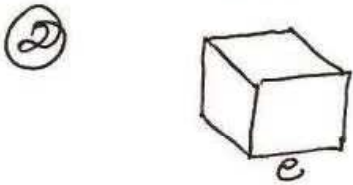


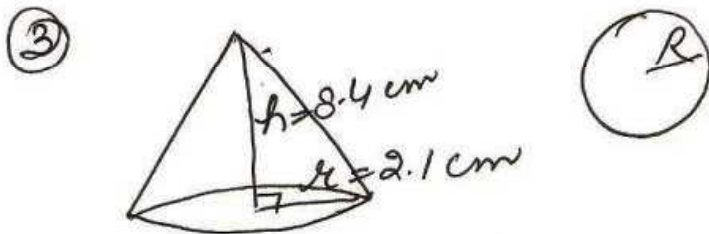
$$\begin{aligned} \text{vol} &= \frac{4}{3} \pi (r')^3 \\ &= \frac{4}{3} \pi (2r)^3 \\ &= \frac{32}{3} \pi r^3 \text{ cu. units} \end{aligned}$$

(D)



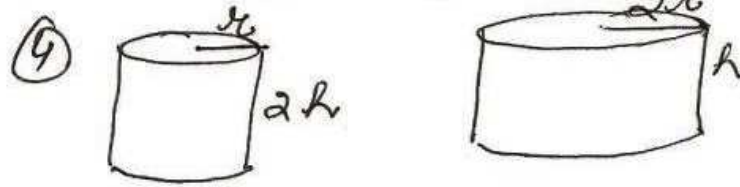
$$\begin{aligned} \text{tSA} &= 96 \text{ cm}^2 \\ 6e^2 &= 96 \\ \Rightarrow e^2 &= 16 \\ \Rightarrow e &= \sqrt{16} \\ &= 4 \text{ cm} \\ \text{volume} &= e^3 \\ &= 4^3 \\ &= 64 \text{ cu. cm} \end{aligned}$$

(C)



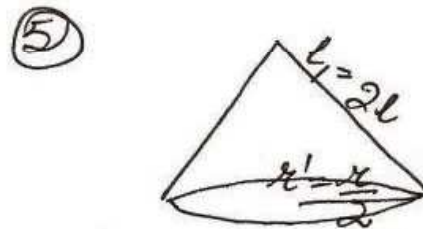
volume of sphere = vol. of cone

$$\begin{aligned} \frac{4}{3} \pi R^3 &= \frac{1}{3} \pi r^2 h \\ 4R^3 &= 2.1 \times 2.1 \times 8.4 \\ \Rightarrow R &= \sqrt[3]{2.1^3} \\ &= 2.1 \text{ cm (B)} \end{aligned}$$

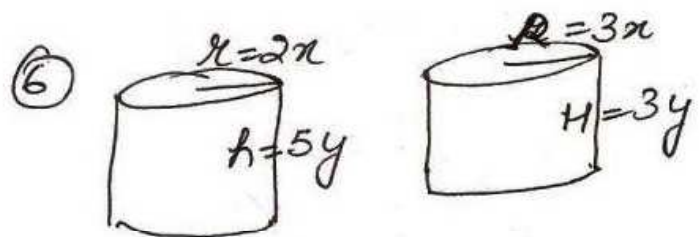


$$\begin{aligned} \frac{\text{CSA}_1}{\text{CSA}_2} &= \frac{2\pi r \times 2h}{2\pi \times 2r \times h} \\ &= \frac{1}{1} \end{aligned}$$

$\Rightarrow \text{CSA}_1 = \text{CSA}_2$
(C) Same



$$\begin{aligned} \text{tSA} &= \pi r' (r' + l) \\ &= \pi r \left(\frac{r}{4} + l \right) \text{ (B)} \end{aligned}$$



$$\begin{aligned} \frac{V_1}{V_2} &= \frac{\pi r^2 h}{\pi R^2 H} \\ &= \frac{2x \times 2x \times 5y}{3x \times 3x \times 3y} \\ &= \frac{20}{27} \\ \therefore 20:27 \text{ (B)} \end{aligned}$$