ex 13.1, exemplar IX

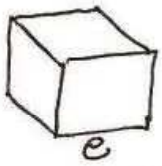
① 

$vol = \frac{4}{3}\pi(r')^3$

$= \frac{4}{3}\pi(2r)^3$

$= \frac{32}{3}\pi r^3$ cu. units

(D)

② 

$tSA = 96\ cm^2$

$6e^2 = 96$

$\Rightarrow e^2 = 16$

$\Rightarrow e = \sqrt{16}$

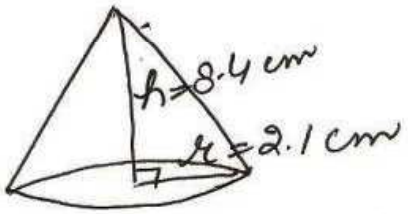
$= 4\ cm$

$volume = e^3$

$= 4^3$

$= 64$ cu. cm

(C)

③ 

R

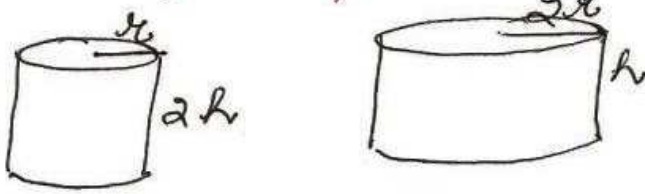
volume of sphere = vol. of cone

$\frac{4}{3}\pi R^3 = \frac{1}{3}\pi r^2 h$

$4R^3 = 2.1 \times 2.1 \times 8.4$

$\Rightarrow R = \sqrt[3]{2.13}$

$= 2.1\ cm$ (B)

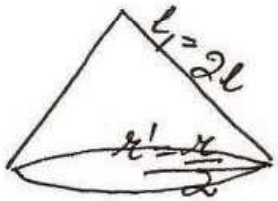
④ 

$\frac{CSA_1}{CSA_2} = \frac{2\pi r \times 2h}{2\pi \times 2r \times h}$

$= \frac{1}{1}$

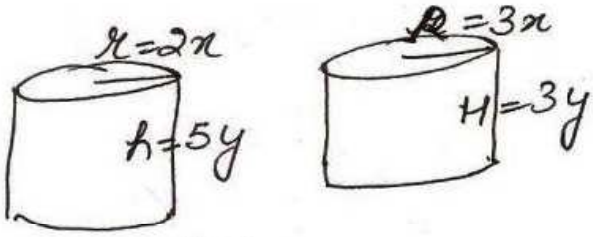
$\Rightarrow CSA_1 = CSA_2$

(C) Same

⑤ 

$tSA = \pi r'(r'+l')$

$= \pi r\left(\frac{r}{4}+l\right)$ (B)

⑥ 

$\frac{V_1}{V_2} = \frac{\pi r^2 h}{\pi R^2 H}$

$= \frac{2x \times 2x \times 5y}{3x \times 3x \times 3y}$

$= \frac{20}{27}$

$\therefore$ 20 : 27 (B)