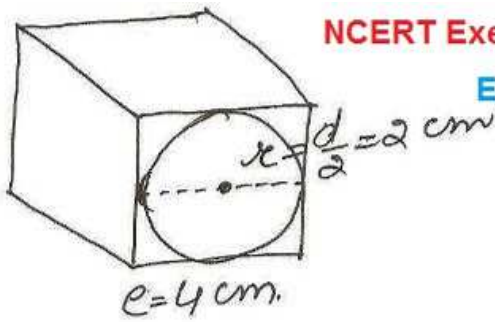


Ex. 13.4 Class IX

⑥



$$= \frac{2}{3} \times 2r$$

$$h = \frac{2}{3} d$$

$$d - h = d - \frac{2}{3} d$$

$$= \frac{d}{3}$$

Percentage increase

$$= \frac{\text{increase} \times 100}{h}$$

$$= \frac{d/3}{2/3 d} \times 100$$

$$= 50$$

volume of gap

= volume of cube  
- volume of sphere

$$= e^3 - \frac{4}{3} \pi r^3$$

$$= 4^3 - \frac{4}{3} \times \frac{22}{7} \times 2 \times 2 \times 2$$

$$= 4^3 \left[ 1 - \frac{11}{21} \right]$$

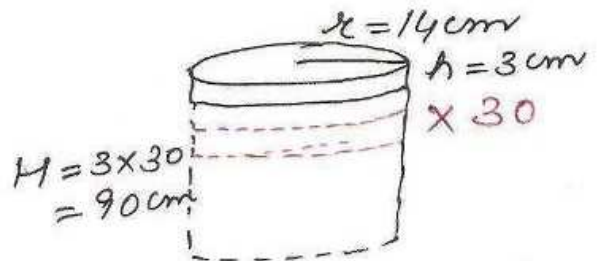
$$= 64 \left( \frac{21-11}{21} \right)$$

$$= \frac{64 \times 10}{21}$$

$$= \frac{640}{21}$$

$$= 30.48 \text{ cm}^3$$

⑧



t.s.A of cylinder

$$= 2\pi r (r+h)$$

$$= 2 \times \frac{22}{7} \times 14 (14+90)$$

$$= 88 \times 104$$

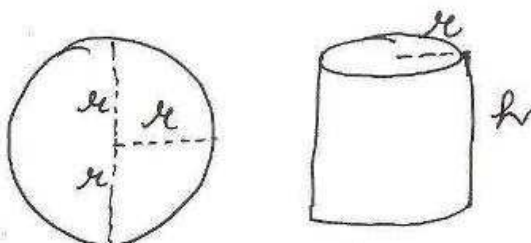
$$= 9152 \text{ cm}^2$$

volume =  $\pi r^2 h$

$$= \frac{22}{7} \times 14 \times 14 \times 90$$

$$= 55440 \text{ cm}^3$$

⑦



volume of sphere

= volume of cylinder

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

$$\Rightarrow h = \frac{4}{3} r$$