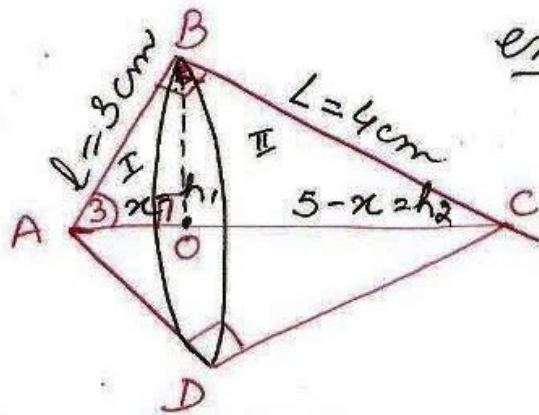


②



ex 13.5

In rt. ΔABC
 $AC^2 = AB^2 + BC^2$ (Pythagoras theorem)
 $= 3^2 + 4^2$
 $= 9 + 16$
 $AC = \sqrt{25}$
 $= 5 \text{ cm}$

$\Delta AOB \sim \Delta ABC$ by AA
 Cox.

$$\left[\begin{array}{l} \angle A = \angle A = 90^\circ \\ \angle B = \angle C \end{array} \right]$$

$$\frac{AO}{AB} = \frac{AB}{AC} = \frac{OB}{BC}$$

$$\frac{x}{3} = \frac{3}{5} = \frac{r}{4}$$

$$\frac{x}{3} = \frac{3}{5} \quad \left| \quad \frac{3}{5} = \frac{r}{4} \right.$$

$$\Rightarrow x = \frac{9}{5} \text{ cm} \quad \Rightarrow r = \frac{12}{5} \text{ cm}$$

Volume of double cone

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

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

$$= \frac{1}{3} \times 3.14 \times \frac{12}{5} \times \frac{12}{5} \times 5$$

$$= 3.14 \times 9.6$$

$$= 30.14 \text{ cm}^3$$

total surface area

$$= \text{CSA of I Cone} + \text{CSA of II cone}$$

$$= \pi r l + \pi r L$$

$$= \pi r (l + L)$$

$$= \frac{22}{7} \times \frac{12}{5} \times (3 + 4)$$

$$= \frac{22 \times 12}{7 \times 5} \times 7$$

$$= 52.8 \text{ cm}^2$$