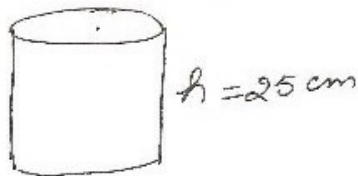


Ex 13.6



①



circumference of base
= 132 cm

$$2\pi r = 132$$

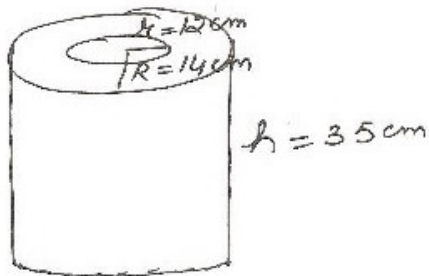
$$2 \times \frac{22}{7} r = 132$$

$$\Rightarrow r = \frac{132 \times 7}{2 \times 22}$$

$$\Rightarrow r = 21 \text{ cm}$$

$$\begin{aligned} \text{Capacity} &= \pi r^2 h \\ &= \frac{22}{7} \times 21^3 \times 25 \\ &= 34650 \text{ cm}^3 \\ &= 34.65 \text{ l} \end{aligned}$$

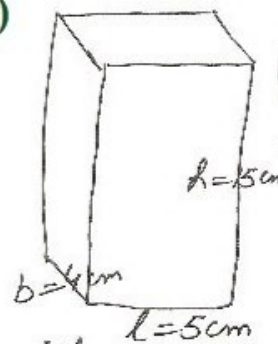
②



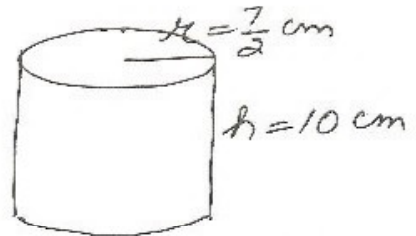
$$\begin{aligned} \text{vol of wood used} &= \pi h (R^2 - r^2) \\ &= \frac{22}{7} \times 35 (14^2 - 12^2) \\ &= 110 \times 2 \times 26 \\ &= 5720 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} \text{Mass} &= 5720 \times 0.6 \\ &= 3432 \text{ g} \\ &= 3.432 \text{ kg} \end{aligned}$$

③



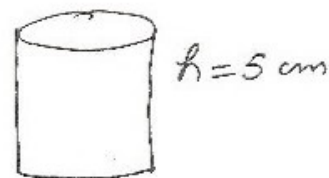
$$\begin{aligned} \text{Capacity of box with} \\ \text{rect. base} &= lbh \\ &= 5 \times 4 \times 15 \\ &= 300 \text{ cm}^3 \end{aligned}$$



$$\begin{aligned} \text{Capacity} &= \pi r^2 h \\ &= \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} \times 10 \\ &= 385 \text{ cm}^3 \end{aligned}$$

\therefore can with circular base has more capacity by $385 - 300$

④



$$\begin{aligned} \text{LSA} &= 94.2 \text{ cm}^2 \\ 2\pi rh &= 94.2 \\ 2 \times 3.14 r \times 5 &= 94.2 \\ 31.4 r &= 94.2 \\ \Rightarrow r &= 3 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{volume} &= \pi r^2 h \\ &= 3.14 \times 3 \times 3 \times 5 \\ &= 141.3 \text{ cm}^3 \end{aligned}$$