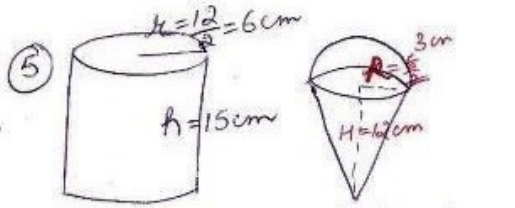
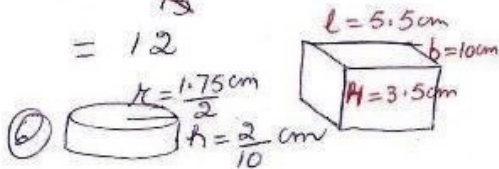


ex. 13.3



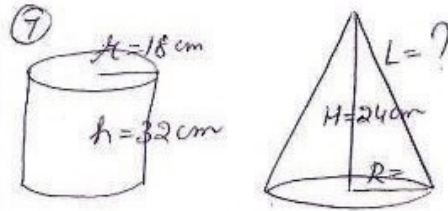
$$\text{no. of cones} = \frac{\text{vol of cyl}}{\text{vol of ice cream in one cone}}$$

$$\begin{aligned} &= \frac{\pi r^2 h}{\frac{1}{3} \pi R^2 H + \frac{2}{3} \pi R^3} \\ &= \frac{\pi r^2 h}{\frac{1}{3} \pi R^2 (H+R)} \\ &= \frac{6 \times 6 \times 15}{\frac{1}{3} \times 3 \times 3 \times (6+3)} \\ &= \frac{6 \times 6 \times 15}{15} \\ &= 12 \end{aligned}$$



$$\text{no of coins} = \frac{\text{vol of cuboid}}{\text{vol of 1 coin}}$$

$$\begin{aligned} &= \frac{lbH}{\pi r^2 h} \\ &= \frac{5.5 \times 10 \times 3.5}{\frac{4}{7} \times \frac{75}{2} \times \frac{1.75}{2} \times \frac{3}{10}} \\ &= 400 \end{aligned}$$

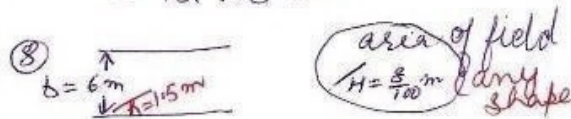


$$\text{vol of conical heap} = \text{vol. of bucket}$$

$$\begin{aligned} \frac{1}{3} \pi R^2 H &= \pi r^2 h \\ \frac{1}{3} R^2 \times 24 &= 18 \times 18 \times 32 \\ R^2 &= 18 \times 18 \times 4 \end{aligned}$$

$$\begin{aligned} \Rightarrow R &= \sqrt{18 \times 18 \times 2 \times 2} \\ &= 36 \text{ cm} \end{aligned}$$

$$\begin{aligned} L &= \sqrt{R^2 + H^2} \\ &= \sqrt{36^2 + 24^2} \\ &= \sqrt{12^2 (9 + 4)} \\ &= 12 \sqrt{13} \text{ cm} \end{aligned}$$



$$\text{distance covered by water in 30 min} = \frac{10}{2}$$

$$\begin{aligned} &= 5 \text{ km} \\ &= 5000 \text{ m} \end{aligned}$$

$$\text{vol of water flowing out} = \text{vol of water collected}$$

$$\begin{aligned} lbh &= \text{area of field} \times H \\ 5000 \times 6 \times 1.5 &= \text{area} \times \frac{8}{100} \\ \text{area} &= 15000 \times 1.5 \times 25 \\ &= 562500 \text{ m}^2 \\ &= 56.25 \text{ hectares} \end{aligned}$$