Exercise 13A

Question 6:

Length of wall = 15m
Breadth of wall = 0.3m
Height of wall = 4m
∴ Volume of the wall = (15 x 0.3 x4) m³ =18m³

$$\text{Volume of mortar} = \left(\frac{1}{12} \times 18\right) = 1.5 \, m^3$$

$$\text{Volume of wall} = (18 - 1.5)m^3 = 16.5 = \frac{33}{2} \, m^3$$

Length of brick = 22 cm
Breadth of brick = 12.5 cm
Height of brick = 7.5 cm

$$\therefore \text{Volume of 1 brick} = \left(\frac{22}{100} \times \frac{12.5}{100} \times \frac{7.5}{100}\right) m^3$$

$$= \left(\frac{33}{16000}\right) m^3$$

$$\therefore \text{Number of bricks} = \frac{\text{Volume of bricks}}{\text{Volume of 1brick}}$$

$$= \left(\frac{33}{2} \times \frac{16000}{33}\right) = 8000$$

Question 7:

External length of cistern = 1.35 m = 135 cm
External breadth of cistern = 1.08 m =108 cm
External height of cistern = 90cm
∴ External volume of cistern = (135 x 108 x 90) cm³
=1312200 cm³
Internal length of cistern = (135 – 2 x 2.5) cm
= (135 - 5) cm =130 cm
Internal breadth of cistern = (108 – 2 × 2.5) cm
= (108 – 5) cm=103 cm
Internal height of cistern = (90 – 2.5) cm = 87.5 cm
∴ Capacity of the cistern = Internal volume of cistern

= (130 x 103 x 87.5) cm³
= 1171625 cm³
Volume of the iron used = External volume of the cistern

-Internal volume of the cistern

= (1312200 -1171625) cm³
= 140575 cm³

*********** END *********