

volume of material used in pipe = vol. of cuboid

$$\pi h (R^2 - r^2) = lbh$$

$$\frac{22}{7} h (35^2 - 30^2) = 4.4 \times 2.6 \times 1 \times 10^6$$

$$\left[ \begin{array}{l} 1 \text{ m} = 10^2 \text{ cm} \\ 1 \text{ m}^3 = 10^6 \text{ cm}^3 \end{array} \right]$$

$$\frac{22}{7} h \times 5 \times 65 = 44 \times 26 \times 10^4$$

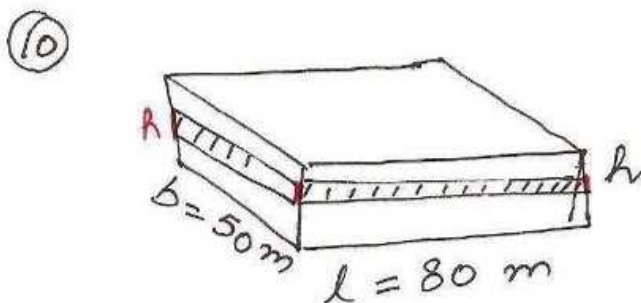
$$\left[ \begin{array}{l} a^2 - b^2 \\ = (a-b)(a+b) \end{array} \right]$$

$$\Rightarrow h = \frac{4 \times 7 \times 10000 \times 400}{25}$$

$$= 11200 \text{ cm}$$

$$= 112 \text{ m}$$

$$\left[ 1 \text{ cm} = \frac{1}{100} \text{ m} \right]$$



volume of water which rises = vol of water displaced by 500 persons

$$lbh = 500 \times 0.04$$

$$4 \quad 80 \times 50 h = 5 \times 4$$

$$h = \frac{1}{200} \text{ m}$$

$$= \frac{1000}{200} \text{ mm}$$

$$= 5 \text{ mm}$$