



Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q1

**Answer :**

Dimensions of the water tank,  $l = 6 \text{ m}$ ,  $b = 5 \text{ m}$ ,  $h = 4.5 \text{ m}$

We need to find the capacity of the tank

Capacity of the tank,

$$V = lbh$$

$$= 6 \times 5 \times 4.5$$

$$= 135 \text{ m}^3$$

$$= 135 \times (10 \text{ dm})^3 \quad \{\text{Since, } 1 \text{ m} = 10 \text{ dm}\}$$

$$= 135000 \text{ litre} \quad \{\text{Since, } 1 \text{ dm}^3 = 1 \text{ litre}\}$$

The tank can hold 135000 litres of water.

Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q2

**Answer :**

We have,

Length of the vessel ( $l$ ) = 10 m

Width of the vessel ( $w$ ) = 8 m

Capacity of the vessel ( $V$ ) =  $380 \text{ m}^3$

Let:  $h \rightarrow$  Minimum required height of the vessel

So,

$$V = lbh$$

$$380 = lbh$$

$$= (10)(8)h$$

$$h = \frac{380}{80}$$

$$= 4.75 \text{ m}$$

Thus, to hold  $380 \text{ m}^3$  of liquid, the vessel must be minimum 4.75 m high.

Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q3

**Answer :**

We have, the dimensions of the cubical pit are,

$$\text{Length}(l) = 8 \text{ m}$$

$$\text{Breadth}(b) = 6 \text{ m}$$

$$\text{Depth}(h) = 3 \text{ m}$$

$$\text{Rate of digging}(R) = \text{Rs.}30/\text{m}^3$$

Volume of the pit,

$$(V) = lbh$$

$$= 8 \times 6 \times 3$$

$$= 144 \text{ m}^3$$

The cost of digging,

$$= V \times R$$

$$= 144 \times 30$$

$$= \text{Rs.}4320$$

The cost of digging the pit is Rs.4320 .

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