



Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q27

Answer :

We have,

Volume of the godown (V) = $40\text{ m} \times 25\text{ m} \times 10\text{ m}$

Volume of each crate (v) = $1.5\text{ m} \times 1.25\text{ m} \times 0.5\text{ m}$

We need to find the maximum number of crates in the godown that can be placed

Hence, the number of crates that can be stored,

$$\begin{aligned} n &= \frac{V}{v} \\ &= \frac{40\text{ m} \times 25\text{ m} \times 10\text{ m}}{1.5\text{ m} \times 1.25\text{ m} \times 0.5\text{ m}} \\ &= 10666.67 \end{aligned}$$

But, we can not place this amount of crates in the godown, as this is not an integer.

So, we can place maximum **10666** crates in the godown.

Surface Areas and Volume of a Cuboid and Cube Ex 18.2 Q28

Answer :

We have,

Length of the wall (L) = 10 m

= 1000 cm

Height of the wall (H) = 4 m

= 400 cm

Thickness of the wall (T) = 24 cm

Dimension of the brick is $24\text{ cm} \times 12\text{ cm} \times 8\text{ cm}$

We need to find the number of bricks

Here,

Volume of the wall,

$$\begin{aligned} V &= L \times H \times T \\ &= (1000 \times 400 \times 24)\text{ cm}^3 \end{aligned}$$

Dimensions of the brick are, $24\text{ cm} \times 12\text{ cm} \times 8\text{ cm}$

So, number of bricks in the wall,

$$\begin{aligned} n &= \frac{V}{24\text{ cm} \times 12\text{ cm} \times 8\text{ cm}} \\ &= \frac{1000 \times 400 \times 24}{24 \times 12 \times 8} \\ &= 4166.67 \end{aligned}$$

As this is not an integer, we should take least integer greater than 4166.67 .

So, we need **4167** bricks to build the wall.

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