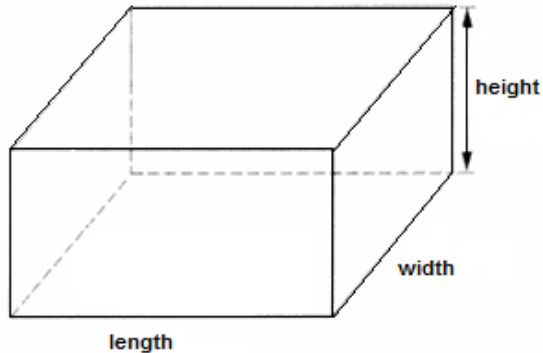


## Grade 6 and 7 – Geometry

### Sample problem – 2

*The volume of any 3-dimensional solid figure is the measure of space occupied by the solid.*

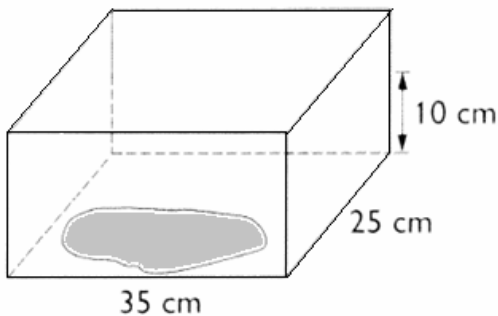


*Volume of cuboid = length  $\times$  width  $\times$  height*

*Volume of solid in cuboid = length  $\times$  width  $\times$  (difference in height of water after adding or removing solid)*

*To find Volume of solid, let's check the question below*

**A rectangular tank, 35 cm long and 25 cm wide, contained some water and a stone. The height of the water level was 10 cm. When the stone was taken out, the water level dropped to 8 cm. Find the volume of the stone.**



#### **STEP 1:**

*To find the Volume of solid, we need to find the difference of height of water before and after removing the solid.*

Difference in height of water = (Height of water with solid) – (Height of water without solid)

$$= \quad 10 \text{ cm} \quad - \quad 8 \text{ cm}$$

$$= \quad 2 \text{ cm}$$

**STEP 2:**

$$\begin{aligned}\text{Volume of stone} &= \text{length} \times \text{width} \times (\text{difference in height of water}) \\ &= 35 \text{ cm} \times 25 \text{ cm} \times 2 \text{ cm} \\ &= 1750 \text{ cm}^3\end{aligned}$$

*Remember, finding the volume of water in the container is not needed in this case.*

**STEP 3:**

*Conversion of volume from  $\text{cm}^3$  to liters.*

$$\text{Volume of stone} = 1750 \text{ cm}^3$$

*The conversion factor is,*

$$1000 \text{ cm}^3 = 1 \text{ liter}$$

SO,

$$1750 \cancel{\text{ cm}^3} \times \frac{1 \text{ liter}}{1000 \cancel{\text{ cm}^3}}$$

$$\frac{1750}{1000} \text{ liter}$$

$$1.75 \text{ liter}$$

The volume of solid = 1.75 liters

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