



## Provincial Department of Education – Sabaragamuwa – Week School

Week: 10<sup>th</sup> Week- 27<sup>th</sup> Dec, 2020- 2<sup>nd</sup> Jan, 2021

Subject: Mathematics

Grade -10

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### Volume of Solids

#### Volume of a cylinder

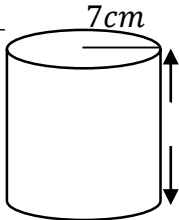
☞ Volume of a cylinder, if the base radius is  $r$  and perpendicular height is  $h = \pi r^2 h$

#### Volume of a triangular prism

☞ Volume of the Prism = Area of the triangular cross section  $\times$  perpendicular height (length)

Examples:-

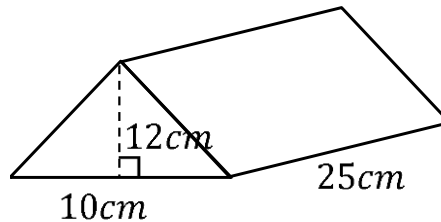
1.



Find the volume of the cylinder

$$\begin{aligned} & \pi r^2 h \\ &= \frac{22}{7} \times 7 \times 7 \times 20 \\ &= 3080 \text{ cm}^3 \end{aligned}$$

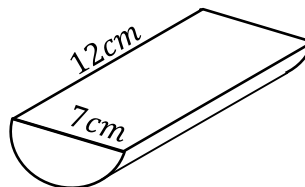
2. Find the volume of the prism



$$\begin{aligned} &= \frac{1}{2} \times 10 \times 12 \times 25 \\ &= 1500 \text{ cm}^3 \end{aligned}$$

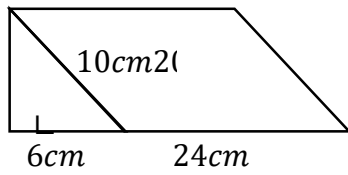
Exercises :-

- Find the volume of the right circular cylinder of radius 14cm and height 25cm.
- The diameter of the cylindrical shaped water tank is 105cm and height is 1m. Find the capacity of the tank in liters. ( $1\text{cm}^3 = 1\text{ml}$ )
- If the mass of  $1\text{cm}^3$  of this metal solid is 3g, find the mass of this solid.



- Area of the cross section of the triangular prism is  $54\text{cm}^2$  and its volume is  $702\text{cm}^3$ . Find the length of the prism.

5.



Find the volume of the prism.

6. The mass of  $1\text{cm}^3$  of this glass prism is  $1.5\text{g}$ . Find the total mass of this prism.

