



## Volume (Prisms)

### Finding the Volume

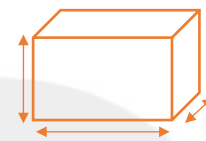
The volume of a 3D object is how much space it takes up.  
It can be found through volume formulas.

When measuring area, we use **cubic units**.  
Cubic units measure the space inside a 3D shape.

#### Volume of a Rectangular Prism

$$V = l \times w \times h$$

**EXAMPLE:**  $A = 4\text{m} \times 3\text{m} \times 2.5\text{m} = 30\text{m}^3$   
There are 30 (1m by 1m by 1m) squares inside.



$l = 4\text{m}$   
 $w = 3\text{m}$   
 $h = 2.5\text{m}$

#### Volume of a Triangular Prism

$$V = A_{\text{triangle}} \times l$$

**EXAMPLE:**  $A = 3\text{m}^2 \times 5\text{m} = 15\text{m}^3$   
There are 15 (1m by 1m by 1m) squares inside.



Area of triangle =  $3\text{m}^2$   
 $l = 5\text{m}$

**Instructions:** Find the volume of the rectangular and triangular prisms below (round to two decimals).

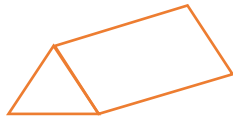
1



$l = 5.5\text{cm}$   
 $w = 3.94\text{cm}$   
 $h = 4.3\text{cm}$



2



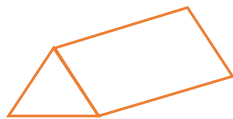
Area of triangle =  $8.3\text{m}^2$   
 $l = 19.21\text{m}$

3



$l = 8.95\text{mm}$   
 $w = 6.2\text{mm}$   
 $h = 5.83\text{mm}$

4



Area of triangle =  $22.08\text{cm}^2$   
 $l = 40.35\text{cm}$

5



Area of triangle =  $30.46\text{km}^2$   
 $l = 42.93\text{km}$

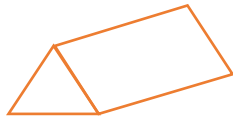
6



$l = 1.3\text{m}$   
 $w = 1.128\text{m}$   
 $h = 1.05\text{m}$



7



Area of triangle =  $50.25\text{cm}^2$   
 $l = 68.31\text{cm}$

8



$l = 25.7\text{mm}$   
 $w = 24\text{mm}$   
 $h = 20.5\text{mm}$

9



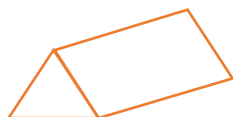
$l = 9.903\text{m}$   
 $w = 5.11\text{m}$   
 $h = 6.2\text{m}$

10



Area of triangle =  $15.99\text{cm}^2$   
 $l = 26.76\text{cm}$

11



Area of triangle =  $3.301\text{km}^2$   
 $l = 6.827\text{km}$



## Volume (Prisms)

### Finding the Volume

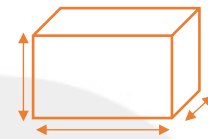
The volume of a 3D object is how much space it takes up.  
It can be found through volume formulas.

When measuring area, we use **cubic units**.  
Cubic units measure the space inside a 3D shape.

#### Volume of a Rectangular Prism

$$V = l \times w \times h$$

**EXAMPLE:**  $A = 4\text{m} \times 3\text{m} \times 2.5\text{m} = 30\text{m}^3$   
There are 30 (1m by 1m by 1m) squares inside.



$l = 4\text{m}$   
 $w = 3\text{m}$   
 $h = 2.5\text{m}$

#### Volume of a Triangular Prism

$$V = A_{\text{triangle}} \times l$$

**EXAMPLE:**  $A = 3\text{m}^2 \times 5\text{m} = 15\text{m}^3$   
There are 15 (1m by 1m by 1m) squares inside.



Area of triangle =  $3\text{m}^2$   
 $l = 5\text{m}$

**Instructions:** Find the volume of the rectangular and triangular prisms below (round to two decimals).

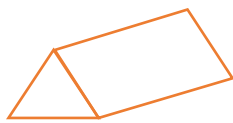
1



$l = 15.2\text{km}$   
 $w = 13.82\text{km}$   
 $h = 11.9\text{km}$



2



Area of triangle =  $38.06\text{m}^2$   
 $l = 52.95\text{m}$

3



$l = 14.2\text{mm}$   
 $w = 13.08\text{mm}$   
 $h = 13.7\text{mm}$

4



Area of triangle =  $28.33\text{m}^2$   
 $l = 39.59\text{m}$

5



Area of triangle =  $2.608\text{cm}^2$   
 $l = 5.798\text{cm}$

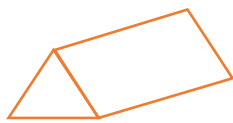
6



$l = 4.41\text{m}$   
 $w = 4.08\text{m}$   
 $h = 3.05\text{m}$



7



Area of triangle =  $17.738\text{m}^2$   
 $l = 9.993\text{m}$

8



$l = 11.17\text{cm}$   
 $w = 8.48\text{cm}$   
 $h = 10.35\text{cm}$

9



$l = 27.67\text{km}$   
 $w = 23\text{km}$   
 $h = 15.5\text{km}$

10



Area of triangle =  $30.93\text{m}^2$   
 $l = 38.39\text{m}$

11



Area of triangle =  $6.439\text{cm}^2$   
 $l = 7.122\text{cm}$