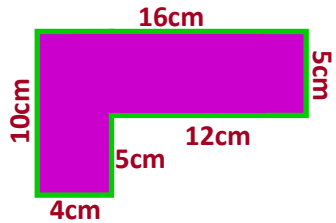


## Perimeter

The perimeter of a shape or space is the distance around the outside.



$$\begin{aligned} \text{Perimeter} &= 5\text{cm} + 16\text{cm} + 10\text{cm} + 4\text{cm} + 5\text{cm} + 12\text{cm} \\ &= 52\text{cm} \end{aligned}$$

## Area

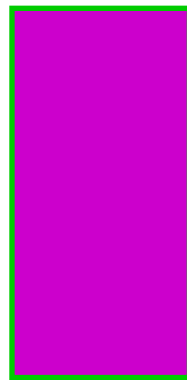
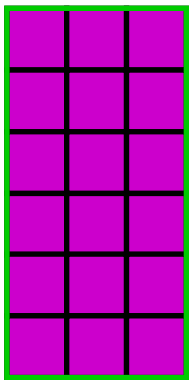
The area of a shape is the amount of 2D space it takes up



Perimeter  
Area

## Area of rectangle

$$\text{Area of rectangle} = b \times h$$



6cm

3cm

$$\text{Area} = 3\text{cm} \times 6\text{cm} = 18\text{cm}^2$$

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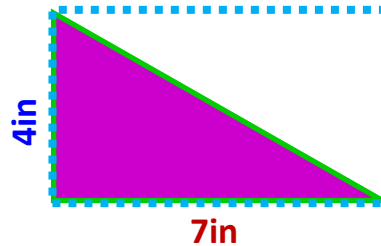
@MrH\_T77

# Perimeter, Area and Volume

## Area of triangle

A **triangle** is half the size of a **rectangle** with the same **base** and **height**.

Therefore, the **area** is **half** the size.



$$\begin{aligned} \text{Area of triangle} \\ &= b \times h \div 2 \end{aligned}$$

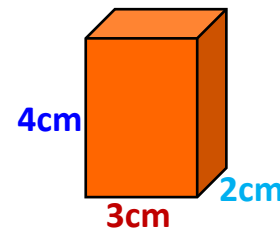
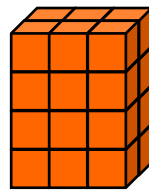
$$\begin{aligned} \text{Area} &= 7\text{in} \times 4\text{in} \div 2 \\ &= 28\text{in}^2 \div 2 = 14\text{in}^2 \end{aligned}$$

## Volume of cuboids

The **volume** of a cuboid is its "3D space"

It can be counted as cubes or by using

$$\text{Volume of cuboid} = \text{base} \times \text{height} \times \text{depth}$$



4cm

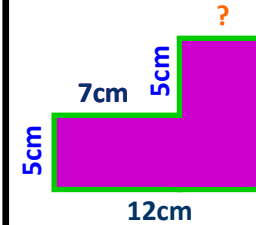
3cm

2cm

$$\begin{aligned} \text{Volume} &= 3\text{cm} \times 4\text{cm} \times 2\text{cm} = \\ &12\text{cm}^2 \times 2\text{cm} = 24\text{cm}^3 \end{aligned}$$

## Finding missing sides

Using the properties of shapes, we can find the length of missing sides.

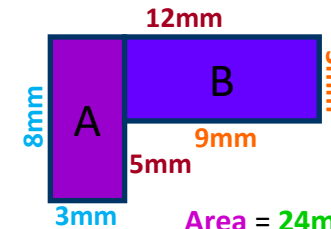


$$? = 12\text{cm} - 7\text{cm} = 5\text{cm}$$

$$? = 5\text{cm} + 5\text{cm} = 10\text{cm}$$

## Area of compound shapes

To find the **area** of compound shapes, simply split them into shapes you can find the area of.



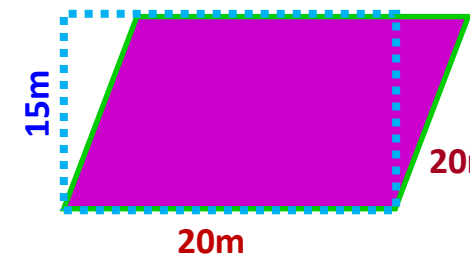
$$\begin{aligned} \text{Area of A} &= 3\text{mm} \times 8\text{mm} = 24\text{mm}^2 \\ \text{Area of B} &= 9\text{mm} \times 3\text{mm} = 27\text{mm}^2 \end{aligned}$$

$$\text{Area} = 24\text{mm}^2 + 27\text{mm}^2 = 51\text{mm}^2$$

## Area of Parallelogram

A **parallelogram** has the same area as a **rectangle** with the same **base** and **height**

$$\text{Area of parallelogram} = b \times h$$



$$\begin{aligned} \text{Area} &= 20\text{m} \times 15\text{m} \\ &= 300\text{m}^2 \end{aligned}$$