

Templars Primary School Knowledge Organiser Year 5 Perimeter and Area

Key Vocabulary

metre

kilometre

perimeter

length

width

rectangle

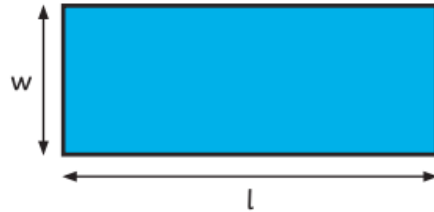
rectilinear

dimensions

compound shape

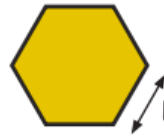
Measure perimeter

Measure the perimeter of a rectangle:



Measure the length (l) and width (w).
Perimeter = $l + w + l + w$ or $(l + w) \times 2$

Measure the perimeter of regular shapes:



Measure the length (l) and count the number of sides (s) on the shape.

$$\text{Perimeter} = l \times s$$

Measure the perimeter of irregular shapes:

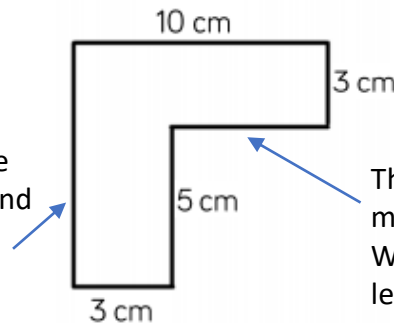


Measure the length of each side and add them together.

Calculate perimeter

This side has a missing length.

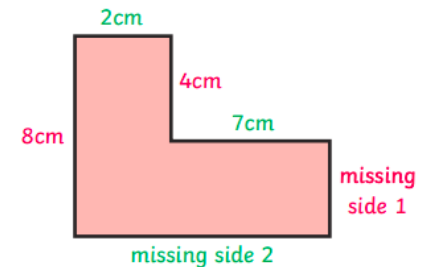
We can look at the opposite side to find the length -
 $3\text{cm} + 5\text{cm} = 8\text{cm}$



This side has a missing length. We can use the lengths we do know to work it out.
 $10\text{cm} - 3\text{cm} = 7\text{cm}$

$$\text{Perimeter} = 10\text{cm} + 8\text{cm} + 3\text{cm} + 5\text{cm} + 7\text{cm} + 3\text{cm} = 36\text{cm}$$

Calculate the missing sides of this rectilinear shape to find the perimeter:



$$\text{Missing side 1} + 4\text{cm} = 8\text{cm}$$

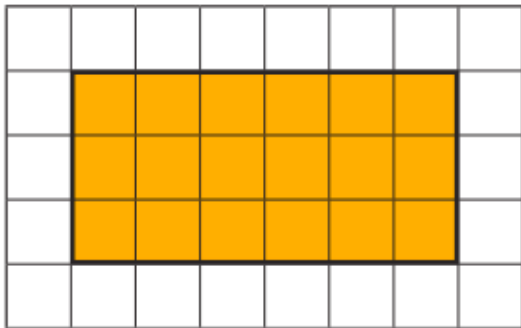
$$\text{So missing side 1} = 4\text{cm}$$

$$\text{Missing side 2} = 2\text{cm} + 7\text{cm} = 9\text{cm}$$

$$\text{Perimeter} = 2\text{cm} + 4\text{cm} + 7\text{cm} + 4\text{cm} + 9\text{cm} + 8\text{cm} = 34\text{cm}$$

Area of rectangles

The area of a rectangle on a grid:



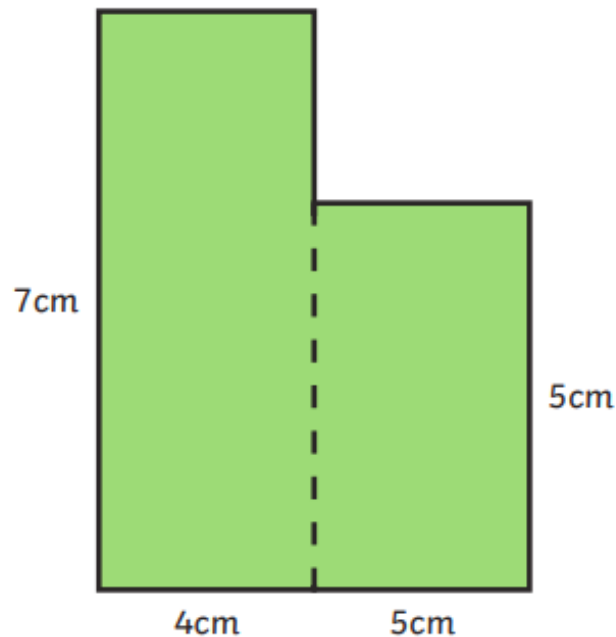
Multiply the length \times width
 $= 6 \times 3 = 18$ squares.

The area of a rectangle = length (l) \times width (w).



Area of compound shapes

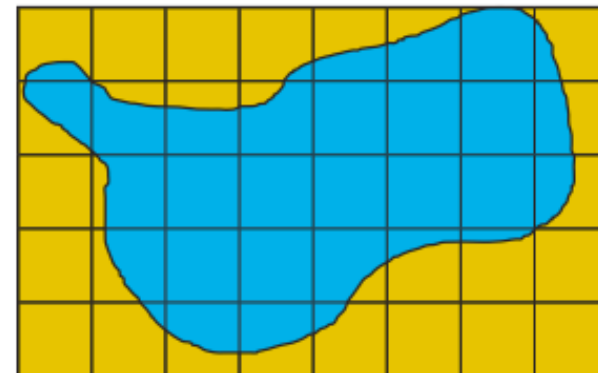
To find the area of a compound shape, divide the shape into rectangles with known dimensions:



$$\begin{aligned}\text{Area} &= 7\text{cm} \times 4\text{cm} + 5\text{cm} \times 5\text{cm} \\ &= 28\text{cm}^2 + 25\text{cm}^2 \\ &= 53\text{cm}^2\end{aligned}$$

Area of irregular shapes

To find the area of an irregular shape, find the number of whole squares and part squares.



Whole squares = 10
Part squares = 22

$$\begin{aligned}\text{Estimate of area} &= \text{whole squares} + \\ &\quad \text{half part squares} \\ &= 10\text{cm}^2 + 11\text{cm}^2 = 21\text{cm}^2\end{aligned}$$

*There are other ways to estimate the area of irregular shapes.