

Year 5 – Maths – Measurement: Area and Perimeter



Measuring and calculating 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.

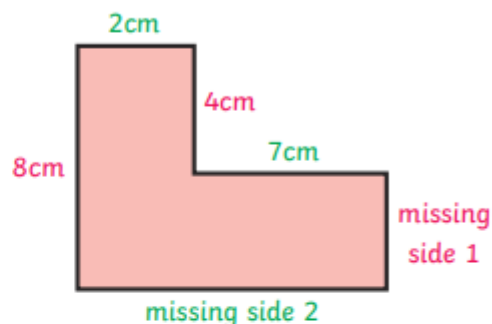
Perimeter = $l \times s$

Measure the perimeter of irregular shapes:



Measure the length of each side and add them together.

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



* This shape is not drawn to the dimensions specified.

Missing side 1 + 4cm = 8cm,
so missing side 1 = 4cm.

Missing side 2 = 2cm + 7cm = 9cm

Perimeter = sum of all sides =
 $2\text{cm} + 4\text{cm} + 7\text{cm} + 4\text{cm} + 9\text{cm} + 8\text{cm} = 34\text{cm}$

Key questions

How many centimetres are in a metre?

What is the difference between the perimeter and the area of a shape?

If the perimeter of a rectangle is 48cm, what do each of the sides measure?

If the area of a square is 60cm^2 , what could the length and width be? What could the perimeter be?

Links to other learning

Year 4 – Measure and calculate the perimeter of a rectilinear figure in centimetres and metres; Find the area of rectilinear shapes by counting squares.

Year 6 – Recognise that shapes with the same areas can have different perimeters and vice versa; Recognise when it is possible to use formulae for area and volume of shapes; Calculate the area of parallelograms and triangles; Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].

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Key vocabulary

metre

kilometre

perimeter

length

width

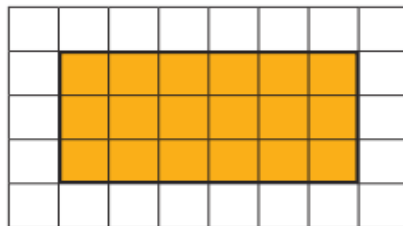
rectangle

rectilinear

dimensions

Area of rectangles

The area of a rectangle on a grid:



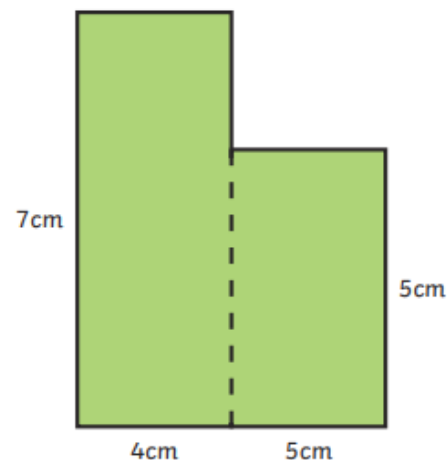
Multiply the length $\times$ width
 $= 6 \times 3 = 18$ squares.

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



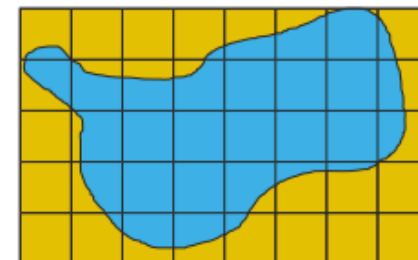
Area of compound shapes

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



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

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