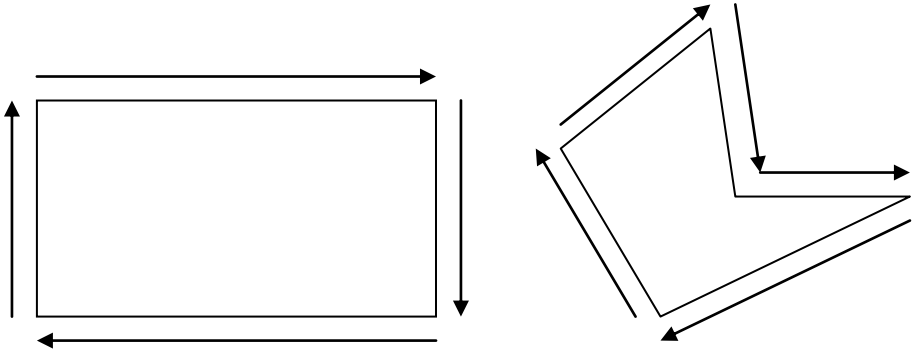
Perimeter

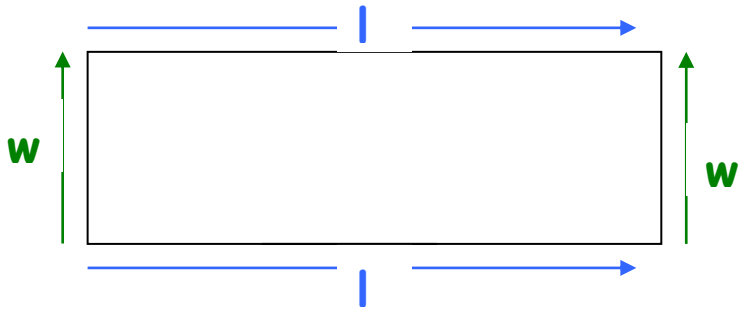
Perimeter is a measure of the distance around the edge of a shape or area.



One way to find the perimeter of a shape is to measure all edges and find the total distance.

To find the perimeter of a rectangle, only 2 measurements are needed because opposite sides have equal length – the perimeter of a rectangle is:

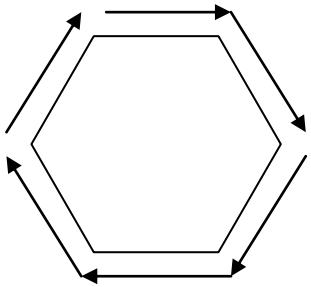
length + length + width + width



If 1 length and 1 width are added, then this total could be doubled to find the total perimeter:

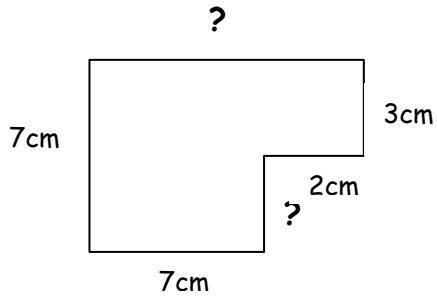
$$P = (l + w) \times 2$$

If a shape is *regular* (all sides of equal length) only the length of one side is needed. Multiply this length by the number of sides.



Length of each side = 5cm
Perimeter = 6 x 5 = 30cm

If a shape is *irregular*, then the length of **all** sides must be known or calculated in order to find the perimeter.



How could the missing lengths be calculated?

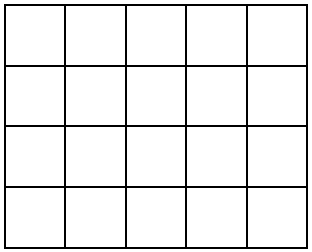
Area

Area is a measure of the *space* inside a shape.
It is NOT measured in the same way as a straight line because it is a measure of surface space.

Area is measured in square units (eg square centimetres or square metres)
Which are written like this:

cm^2 m^2

Area can be found by counting the squares inside a shape drawn onto a grid:



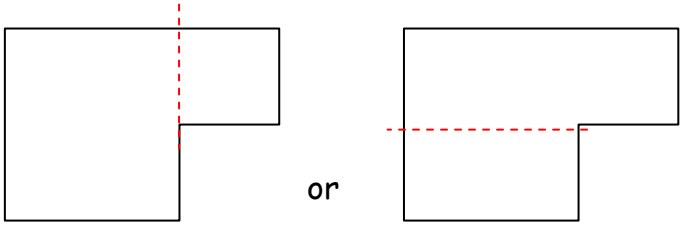
Area = 20 cm^2

This is like a multiplication array.
The area of rectangles can be found by multiplying length by width:

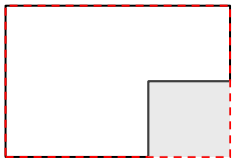
$3 \times 9 = 27\ cm^2$

$A = l \times w$

If a shape is irregular but is formed from lines at right angles to each other (rectilinear), it can be split into rectangles:



Calculate the area of each part, then total to find the entire area.
Alternatively, calculate the area of a larger rectangle that would include the whole shape, then subtract the 'missing corner':



The area of a right angled triangle can be found by imagining a rectangle around it, finding the area, then halving the result: