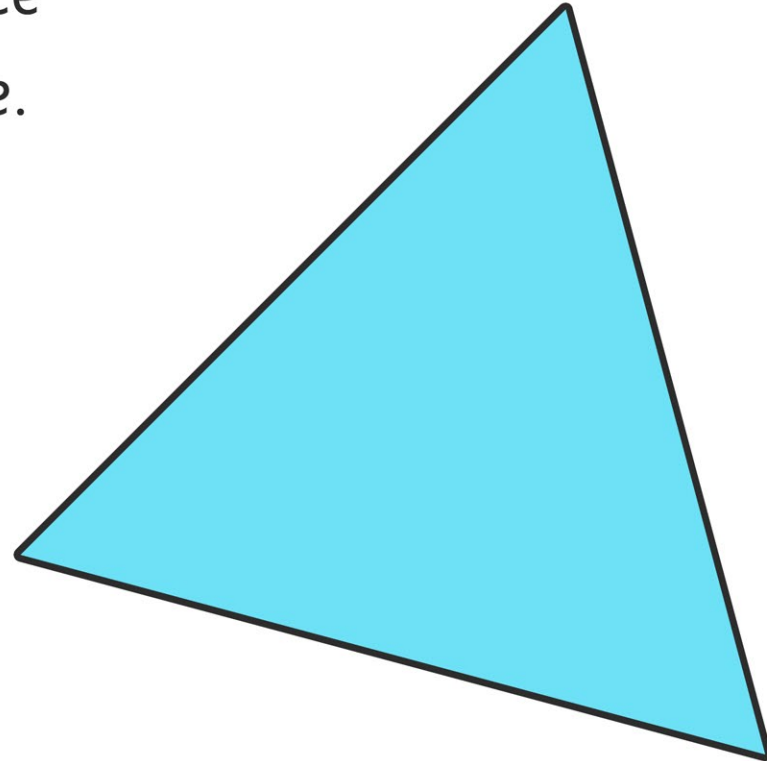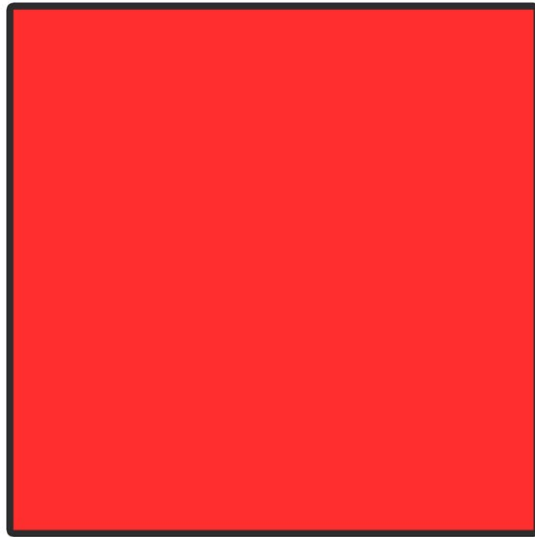# Finding the **Perimeter**

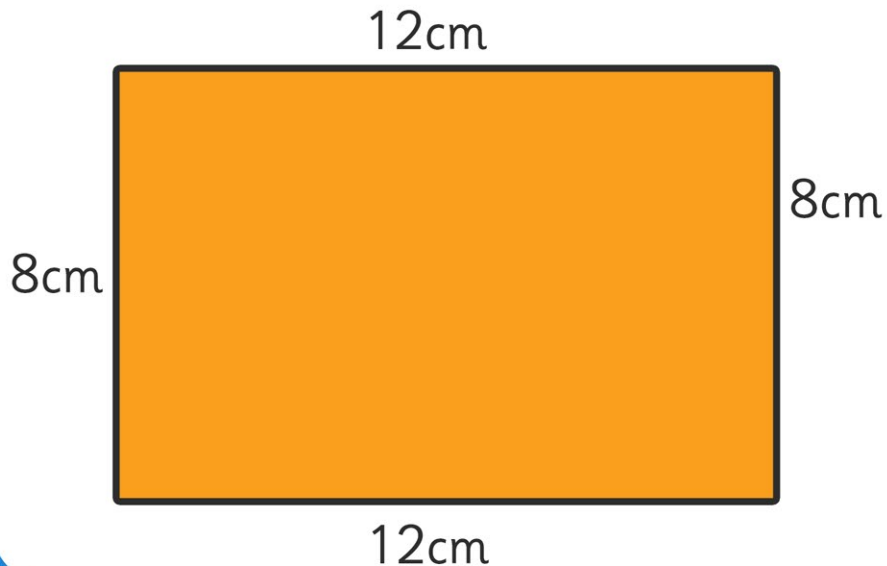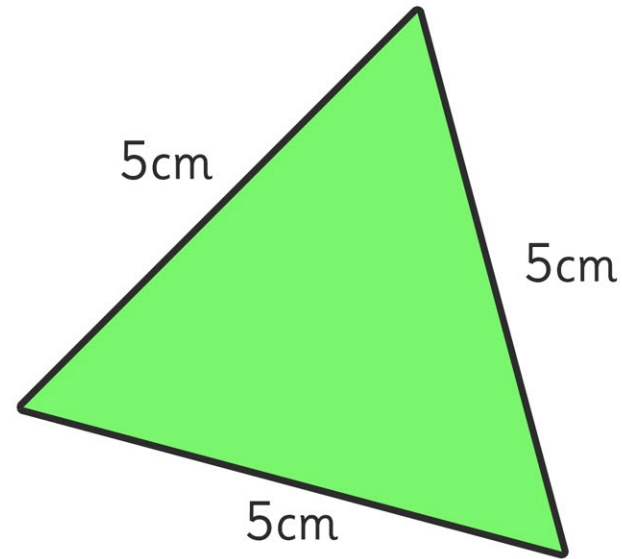The **perimeter** is the total distance around the outside of a 2D shape.

To find the perimeter of any shape with straight sides, simply **add together the length of all the sides.**

Finding the Perimeter

The **perimeter** of this triangle is:
5cm + 5cm + 5cm = **15cm**

5cm

5cm

5cm

12cm

8cm
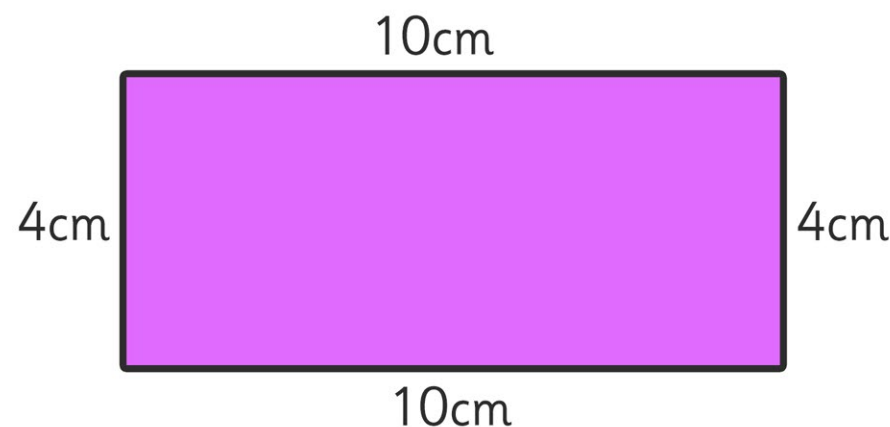
8cm

12cm

The **perimeter** of this rectangle is:
12cm + 12cm + 8cm + 8cm = **40cm**

Finding the **Perimeter**: Rectangles and Parallelograms

The **perimeter**:

10cm + 10cm + 4cm + 4cm = **28cm**

10cm

4cm

4cm

10cm

Rectangles and parallelograms have two pairs of equal parallel sides, so you could also work it out like this:

multiply 10cm by 2 and 4cm by 2 and add the totals together:

10 × 2 = **20**   and   4 × 2 = **8**   so   20 + 8 = **28cm**

or

add 10cm and 4cm then multiply by 2:

10 + 4 = 14 ➡ 14 × 2 = **28cm**

Finding the Area

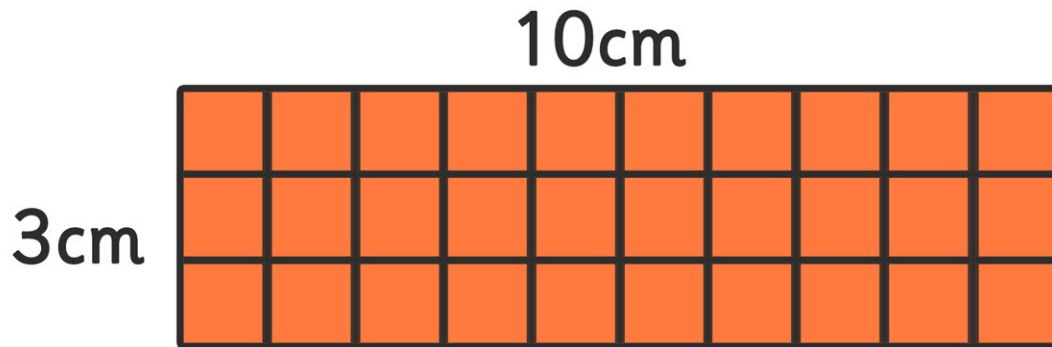The **area** is the total amount of surface a 2D shape covers.

Area is measured in square units:
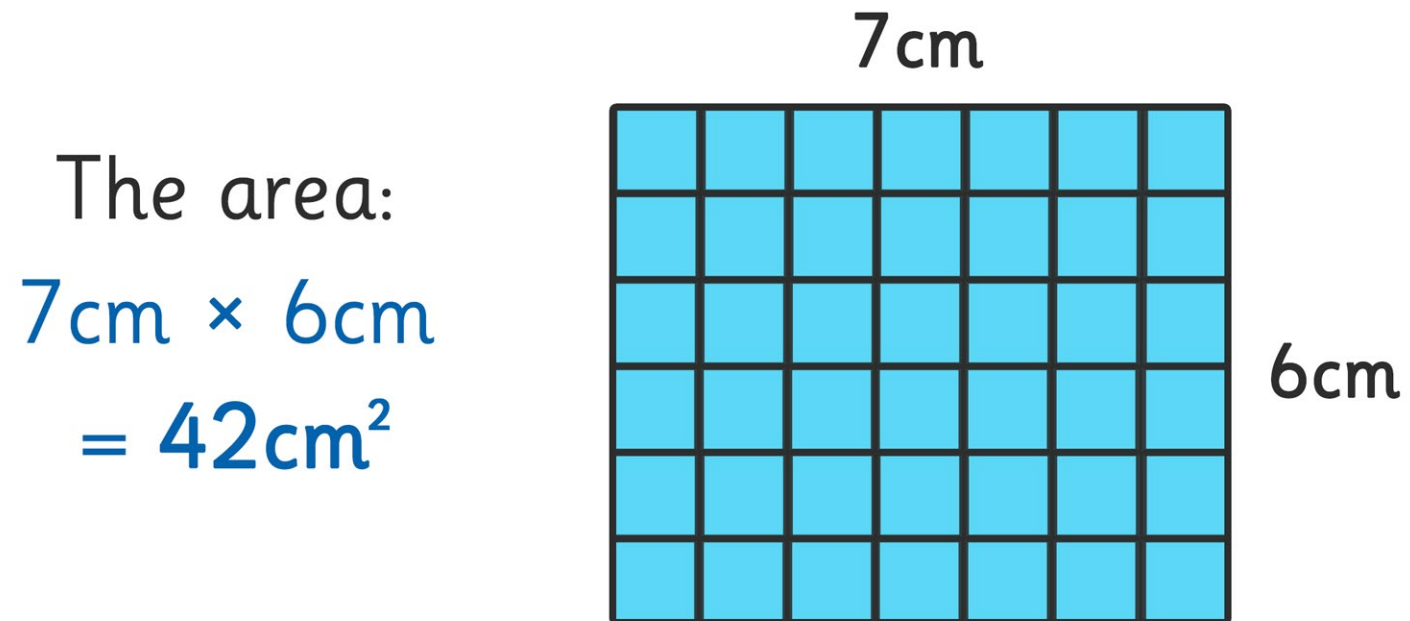
squared centimetres (**cm²**)

squared metres (**m²**)

squared kilometres (**km²**)
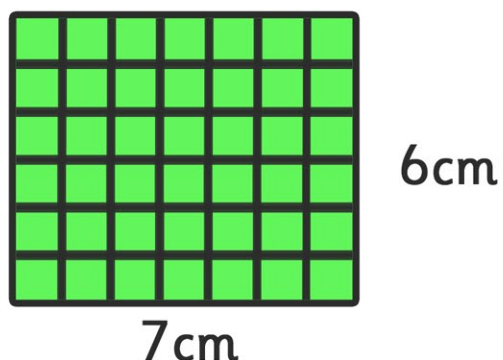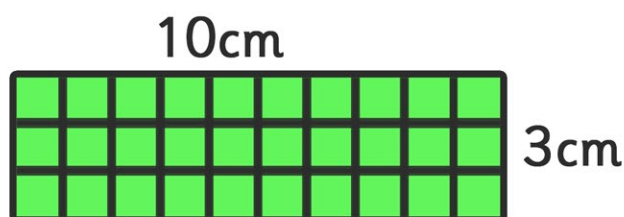
Finding the **Area**: Rectangle

10cm

3cm

The area:

10cm × 3cm

= 30cm²

7cm

The area:

7cm × 6cm

= 42cm²

6cm

Finding the Area

10cm

3cm

9cm

6cm

7cm

10cm

3cm

6cm

7cm
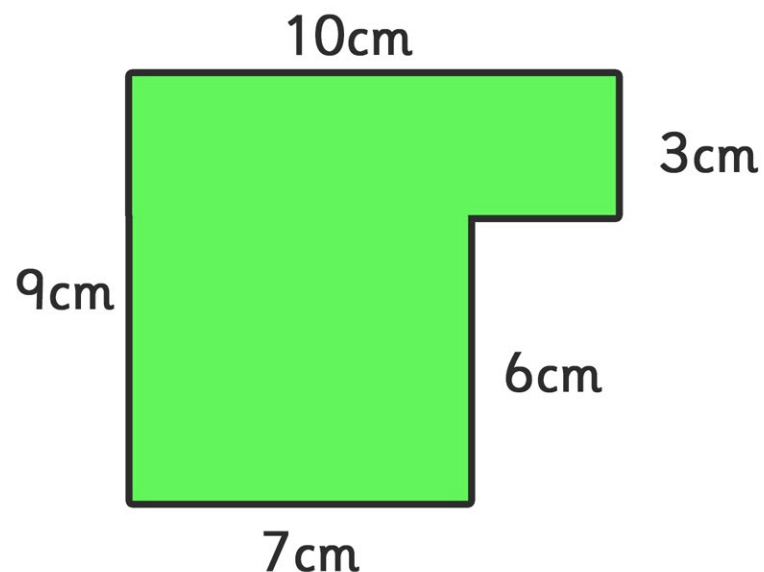
You can calculate the area of shapes made up of rectangles by breaking them down into individual rectangles.
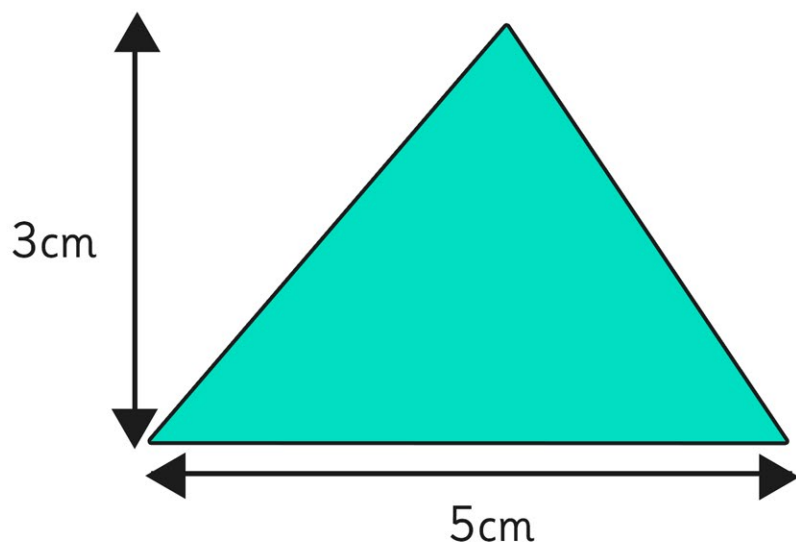
The area:

10cm × 3cm = **30cm²**

6cm × 7cm = **42cm²**

30cm² + 42cm² = **72cm²**

Finding the **Area** of a Triangle

To find the area
of a triangle:
multiply the base × the height
and divide the answer by 2

$$5cm \times 3cm = 15cm^2$$
$$15cm \div 2 = 7.5cm^2$$
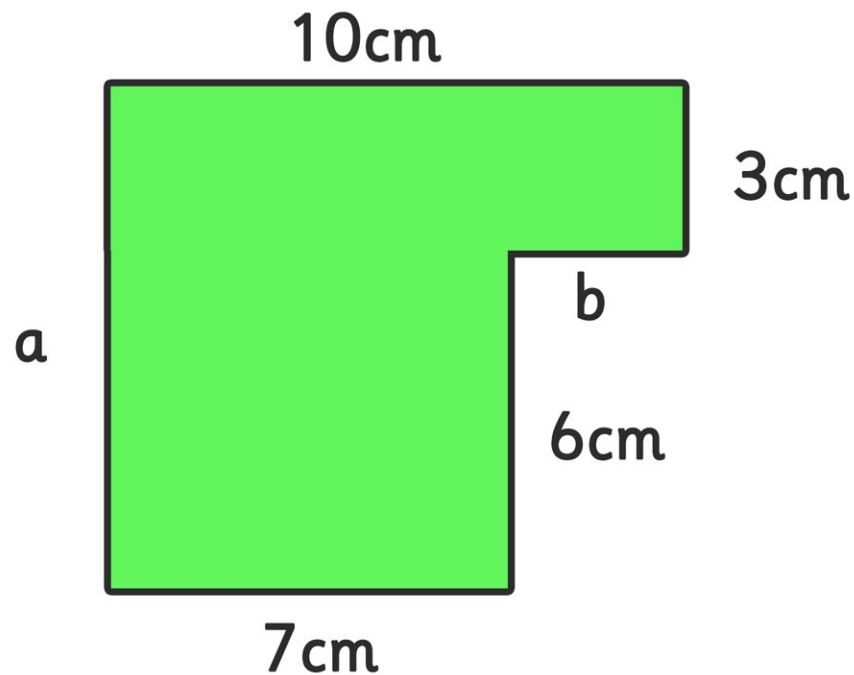$$area = 7.5cm^2$$

3cm

5cm

Finding the **Perimeter** of a Rectilinear Shape

You can calculate the perimeter of a rectilinear shape by adding together the length of each side.

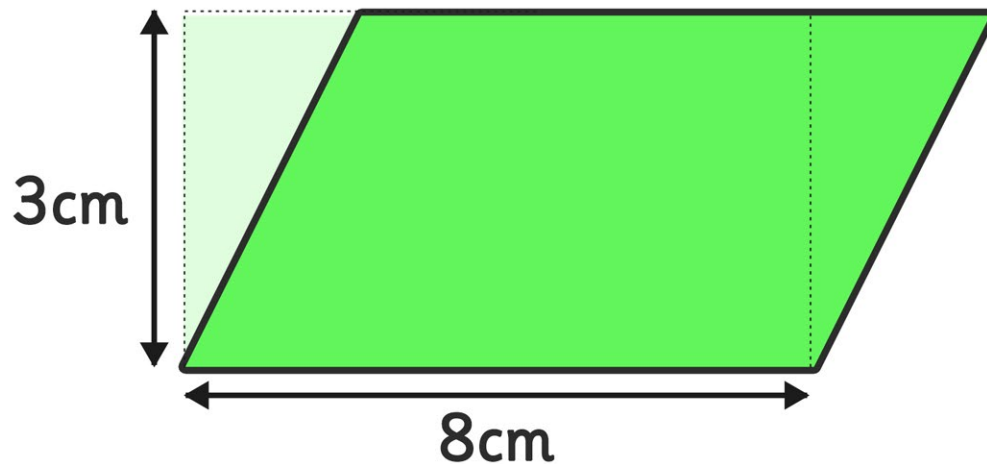You may need to calculate the length of any sides not given.

$a = 6cm + 3cm = 9cm$

$b = 10cm - 7cm = 3cm$

The perimeter:

$10cm + 3cm + 3cm + 6cm + 7cm + 9cm = 38cm$

10cm

3cm

b

a

6cm

7cm

Finding the **Area** of a Parallelogram

To find the area of a parallelogram: multiply the base by the height

$$8\text{cm} \times 3\text{cm} = 24\text{cm}^2$$

See how the parellelogram can be changed into a rectangle.

3cm

8cm