

Key Vocabulary

perimeter

area

volume

cubic units (e.g. cm^3)

cuboid

width

length

rectangle

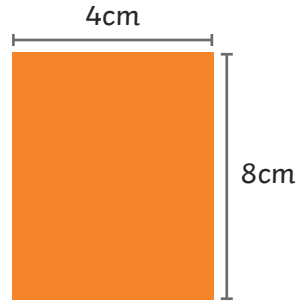
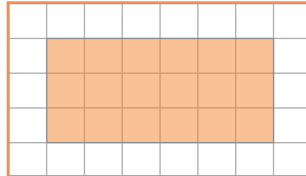
rectilinear

parallelogram

perpendicular height

Area of Rectangles

$\text{length} \times \text{width} = \text{area of a rectangle}$



Counting squares:

$\text{area} = 18\text{cm}^2$

Use formula:

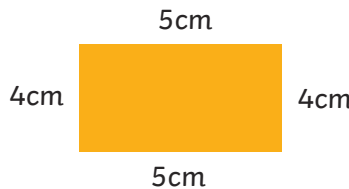
$6\text{cm} \times 3\text{cm}$

$\text{area} = 18\text{cm}^2$

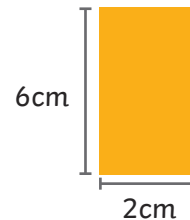
$8\text{cm} \times 4\text{cm} \text{ area} = 32\text{cm}^2$

Perimeter of Rectangles

$\text{perimeter} = \text{length} + \text{width} + \text{length} + \text{width}$ or $(\text{length} + \text{width}) \times 2$



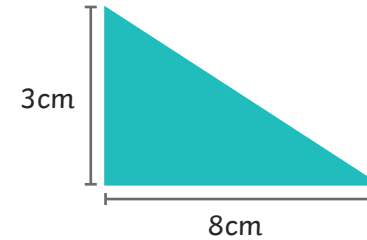
$5\text{cm} + 4\text{cm} + 5\text{cm} + 4\text{cm}$
 $\text{area} = 18\text{cm}^2$



$(6 + 2) \times 2$
 $\text{area} = 16\text{cm}^2$

Area of Triangles

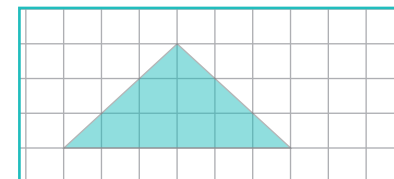
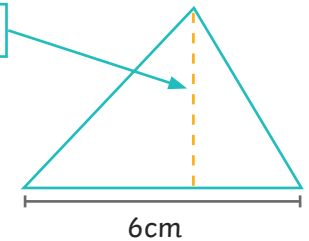
$\text{base} \times \text{perpendicular height} \div 2 = \text{area of a triangle}$



$8\text{cm} \times 3\text{cm} \div 2$
 $\text{area} = 12\text{cm}^2$

perpendicular height = 5cm

$6\text{cm} \times 5\text{cm} \div 2$
 $\text{area} = 15\text{cm}^2$



Counting squares:

6 whole squares = 6cm^2

6 half squares = 3cm^2

$6\text{cm}^2 + 3\text{cm}^2 = 9\text{cm}^2$

$\text{area} = 9\text{cm}^2$

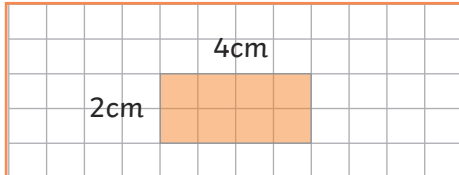
Using formula:

$6\text{cm} \times 3\text{cm}$

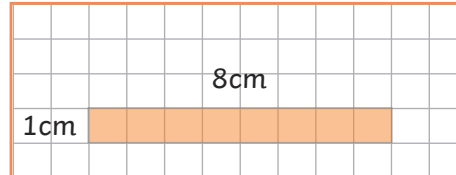
$\div 2 = 9\text{cm}^2$

Perimeter and Area

Shapes with the same area can have different perimeters.

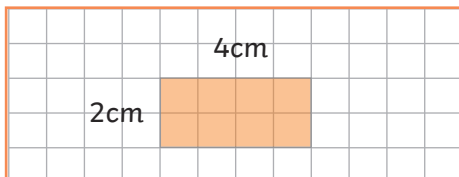


area = 8cm^2 perimeter = 12cm

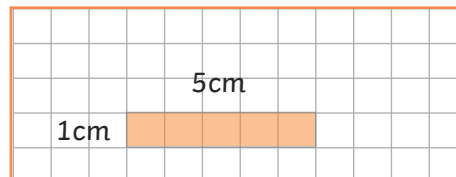


area = 8cm^2 perimeter = 18cm

Shapes with the same perimeter can have different areas.



area = 8cm^2 perimeter = 12cm

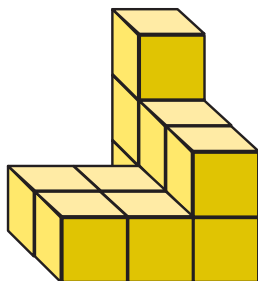


area = 5cm^2 perimeter = 12cm

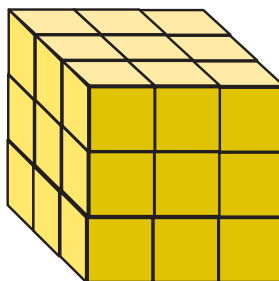
Volume - Counting Cubes



= 1cm^3



11cm^3

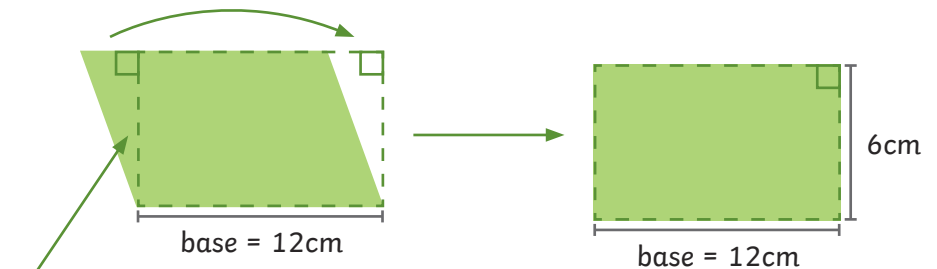


27cm^3

Area of Parallelograms

base \times perpendicular height = area of a parallelogram

A parallelogram can be transformed into a rectangle.

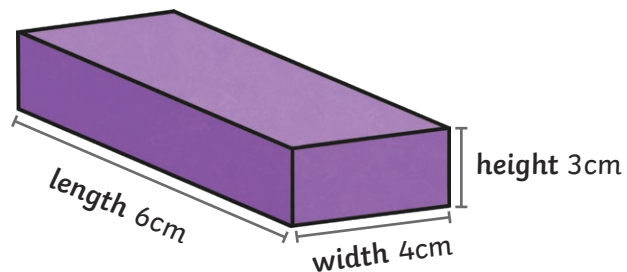


perpendicular height = 6cm

$12\text{cm} \times 6\text{cm} = 72\text{cm}^2$

Volume of Cuboids

length \times width \times height = volume of a cuboid



Multiply dimensions in **any** order:

$3\text{cm} \times 6\text{cm} \times 4\text{cm}$

volume = 72cm^3