Y7 Maths Knowledge organiser Topic 14: Area and Perimeter

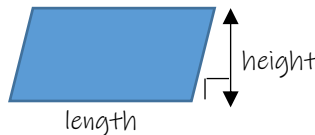| What must I be able to do?	Key vocabulary	
☐ Find the area of a rectangle, triangle and parallelogram ➤ Sparx M900, M390, M610 ☐ Calculate the perimeter of rectangles, squares and rectilinear figures ➤ Sparx M920, M635 ☐ Calculate and work with perimeters ➤ Sparx M690 ☐ Solve problems involving length, perimeter and area ➤ Sparx M269	Area	The space occupied by a flat shape. The area is the amount of units that the shape has covered. Units are squared. e.g. m², cm², mm², etc.
	Perimeter	The perimeter is the distance around the outside of the shape.
	Parallelogram	A quadrilateral with two pairs of parallel sides. A parallelogram with all equal sides is called a rhombus.
	Compound shape	Any shape made up of 2 or more simpler geometric shapes.

Area formulae

Rectangle/Square
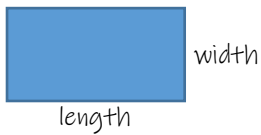
Area = Length x width

Parallelogram

Area = length x perpendicular height

Perpendicular means at right angles to the base (not the sloping side!)
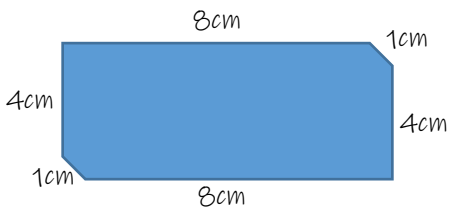
Triangles

Area = Base x perpendicular height ÷ 2

A triangle is half the area of a rectangle

Perimeter

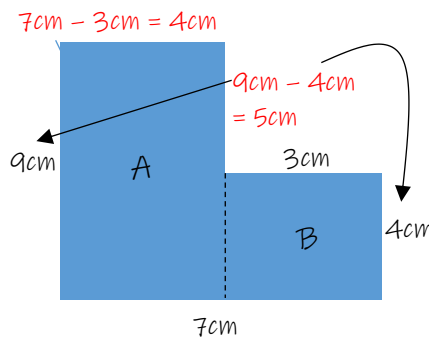Add up the length of each side on the outside of the shape.

The perimeter is:

= 8cm + 1cm + 4cm + 8cm + 1cm + 4cm

= 26cm

Compound shapes

7cm – 3cm = 4cm

9cm – 4cm = 5cm

Area: Split the shape into known shapes (e.g. rectangles) and find the area of each then add them together:

Rectangle A: 9 x 4 = 36cm²

Rectangle B: 4 x 3 = 12cm²

Total area = 48cm²

Perimeter: Find any missing sides by using the known ones, then add all sides together.

Perimeter = 9cm + 7cm + 4cm + 3m + 5cm + 4cm = 32cm

Problem solving with area and perimeter

Area and perimeter often link other topics in Maths questions. This could involve algebra, for example collecting like terms or solving equations, or it could involve money, time, and many others. You need to consider what you know about that topic and how working out the area/perimeter of the shape could be helpful.

e.g. Write down perimeter of this shape in its simplest form.
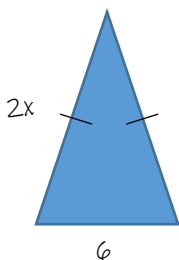
As two sides of the triangle are marked, we can see that it must be an isosceles triangle (2 sides are equal), so the missing side must also be 2x.

Perimeter = 2x + 2x + 6

= 4x + 6