

Area

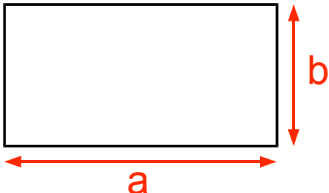
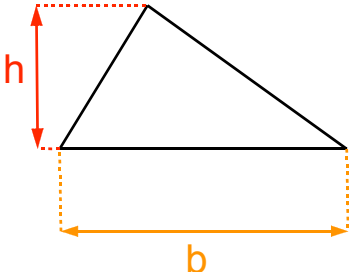
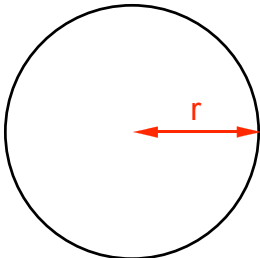
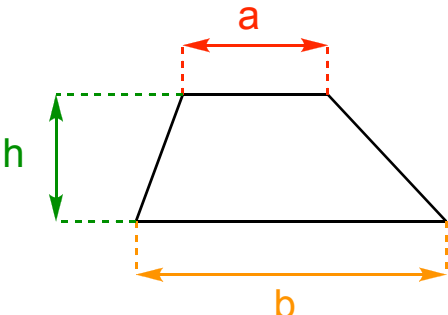
What's area?

Area is an amount of 2D space. It's the size of a surface.

Calculating the area of simple shapes

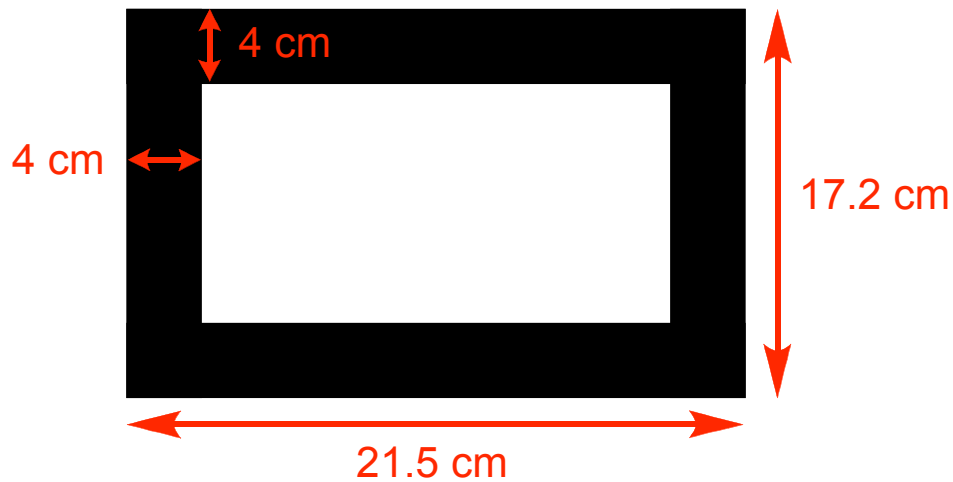
You can work out the area of simple shapes using simple rules or formulae.

You have to learn these off by heart because you don't get given them in the exams (except for the formula for the area of a trapezium, which is in the formula sheet in the exam papers).

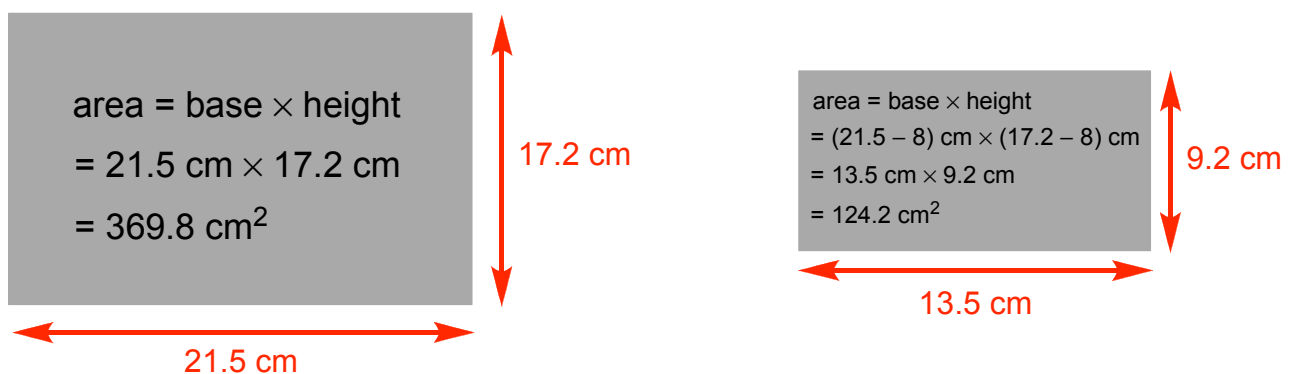
Shape	Diagram	Area
Rectangle		area = width \times height $A_{\text{rectangle}} = ab$
Triangle		area = $\frac{1}{2} \times \text{base} \times \text{height}$ $A_{\text{triangle}} = \frac{1}{2}bh$
Circle		area = $\pi \times \text{radius squared}$ $A_{\text{circle}} = \pi r^2$
Trapezium		area = $\frac{1}{2} \times (\text{short width} + \text{long width}) \times \text{height}$ $A_{\text{trapezium}} = \frac{1}{2}(a + b)h$

Calculating the area of complicated shapes

The best and easiest method for finding the area of a complicated shape is to split it up into several simple shapes, find the area of each simple shape, and add them together.



In this example, the shape whose area we need to find is the black one. We can calculate its area as follows:



area of frame = area of large rectangle – area of small rectangle

$$= 369.8 \text{ cm}^2 - 124.2 \text{ cm}^2$$

$$= 245.6 \text{ cm}^2$$