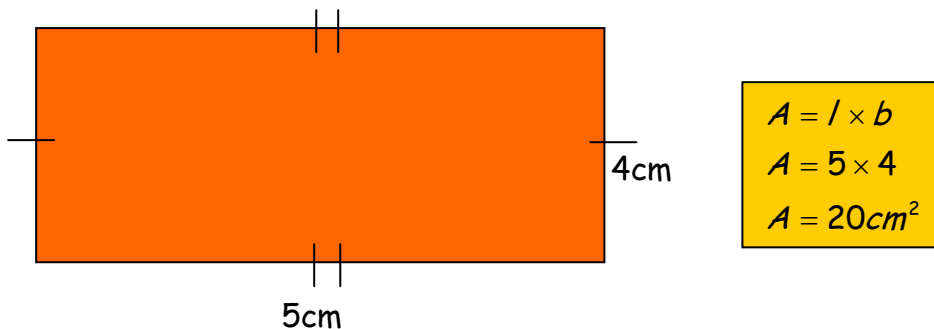


Areas and Volume.

You should be able to find the area of the following shapes:

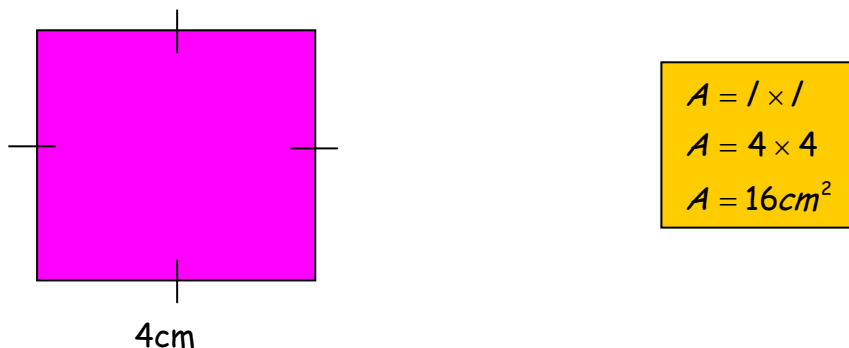
- Rectangles
- Squares
- Any Triangle.
- Circle.
- Kite
- Rhombus
- Parallelogram
- Composite Shapes.

Example 1: Find the area of the following rectangle.



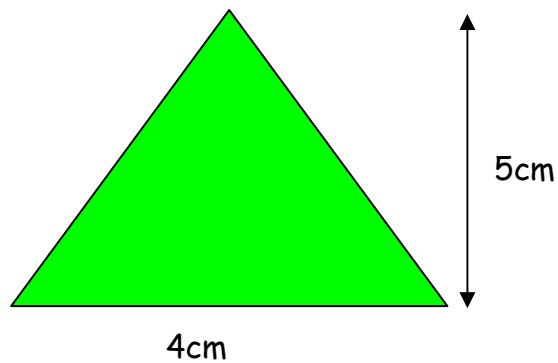
Notice the 2 sets of small lines around the rectangle. These indicate that the side with the same amount of lines is equal in size to that side.

Example 2: Find the area of the following square.



Notice how we are only given the value of one side. We only need the value of one side in a square since all the sides are the same size.

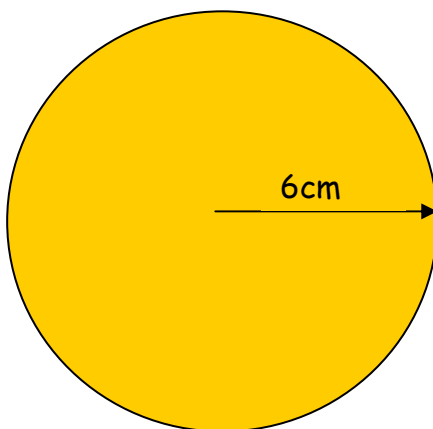
Example 2: Find the area of the following triangle.



$$A = \frac{1}{2} b \times h$$
$$A = \frac{1}{2} \times 4 \times 5$$
$$A = 10\text{cm}^2$$

Remember that the area of a triangle will always be half of the area of its surrounding rectangle. It is usually easier to half whichever number is the biggest, to make for an easier calculation.

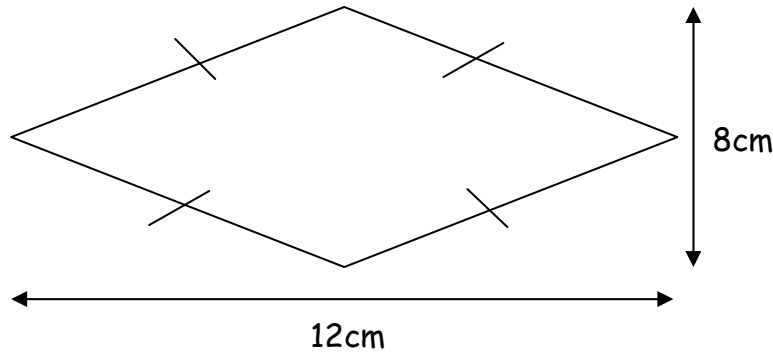
Example 3: Find the area of the following circle.



$$A = \pi r^2$$
$$A = \pi \times 6^2$$
$$A = \pi \times 36$$
$$A = 113.1\text{cm}^2$$

Remember the formula to work out the area of a circle. Don't confuse it with the circumference formula $C = \pi D$. If you are given a situation where you are given the diameter and asked to work out the area, don't forget just half it to find the radius.

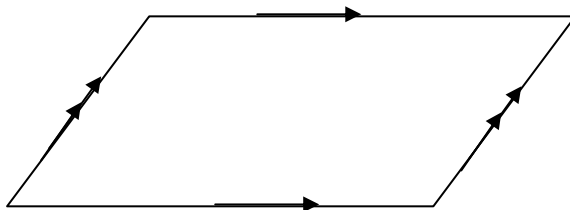
Example 4: Find the area of the following rhombus.



$$A = \frac{1}{2} d_1 d_2$$
$$A = \frac{1}{2} \times 12 \times 8$$
$$A = 48\text{cm}^2$$

Note that when finding the area of both a rhombus and a kite, you use the same formula as shown here, and you **must** measure the diagonals of the shape, i.e. the distance from one corner to the opposite corner. If you are given sides, ignore them when calculating area.

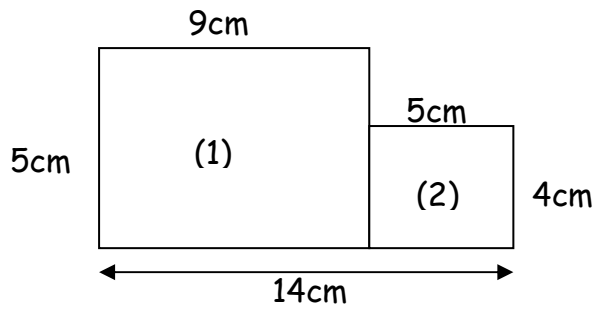
Example 5: Find the area of the following parallelogram.



$$A = b \times h$$
$$A = 7 \times 3$$
$$A = 21\text{cm}^2$$

Remember that the area of a parallelogram is exactly the same as that of a rectangle. You can detach the left corner and attach it to the right corner. The only thing that changes is that in a parallelogram we call it base and height instead of length and breadth.

Example 6: Find the area of the following composite shape.



$$A(1) = l \times b$$

$$A(1) = 9 \times 5$$

$$A(1) = 45\text{cm}^2$$

$$A(2) = l \times b$$

$$A(2) = 5 \times 4$$

$$A(2) = 20\text{cm}^2$$

$$A(T) = 45 + 20$$

$$A(T) = 65\text{cm}^2$$

We don't have the formula to find the area of an L shape. So we must split it up into two rectangles that we know how to find the area of and add them together to find the area of the composite shape.