

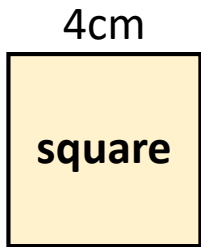
# Area & Perimeter

## Area

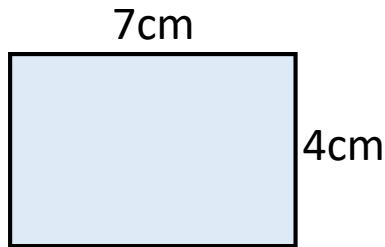
**Area** is the amount of **space** taken up by a **2D shape** or **surface**.  
It is measured in either **mm<sup>2</sup>**, **cm<sup>2</sup>** or **m<sup>2</sup>**.

### Rectangles & Squares

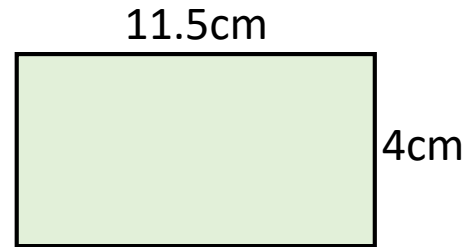
**Area = length x width**



**Area:**  
 $4\text{cm} \times 4\text{cm} =$   
 **$16\text{cm}^2$**



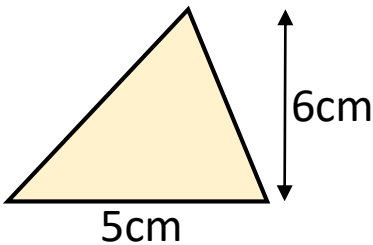
**Area:**  
 $7\text{cm} \times 4\text{cm} =$   
 **$28\text{cm}^2$**



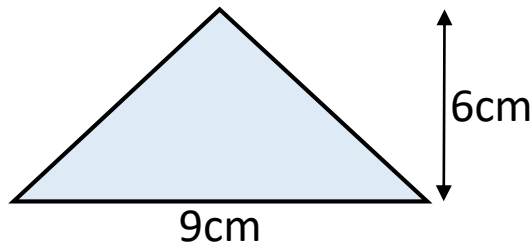
**Area:**  
 $11.5\text{cm} \times 4\text{cm} =$   
 **$46\text{cm}^2$**

### Triangles

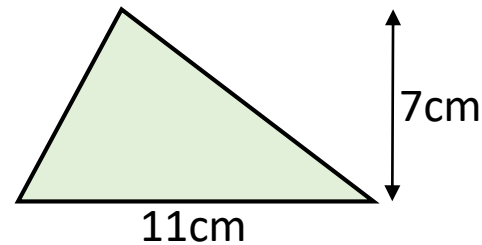
**Area = (base x height) ÷ 2**



**Area:**  
 $(5\text{cm} \times 6\text{cm}) \div 2 =$   
 **$15\text{cm}^2$**



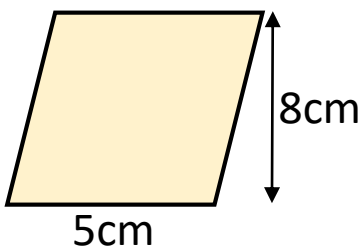
**Area:**  
 $(9\text{cm} \times 6\text{cm}) \div 2 =$   
 **$27\text{cm}^2$**



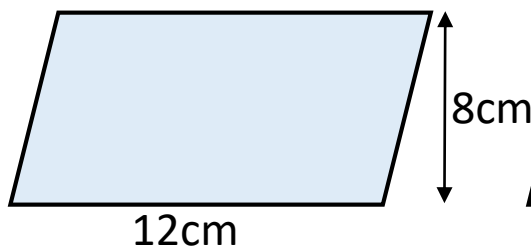
**Area:**  
 $(11\text{cm} \times 7\text{cm}) \div 2 =$   
 **$38.5\text{cm}^2$**

### Parallelograms

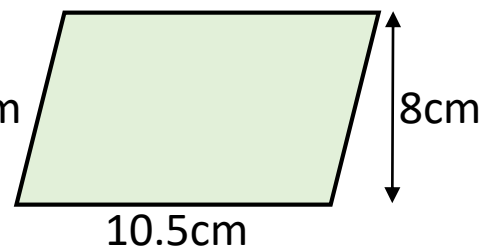
**Area = base x height**



**Area:**  
 $5\text{cm} \times 8\text{cm} =$   
 **$40\text{cm}^2$**



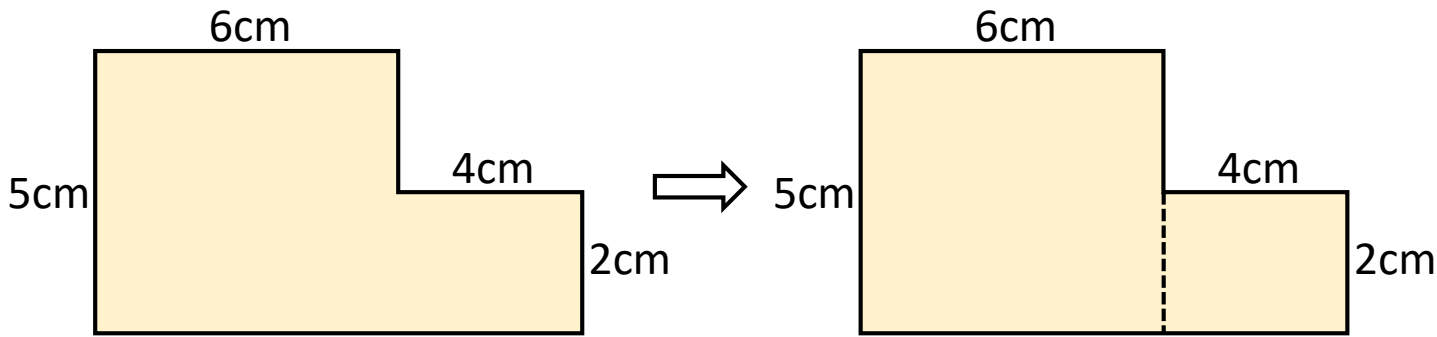
**Area:**  
 $12\text{cm} \times 8\text{cm} =$   
 **$96\text{cm}^2$**



**Area:**  
 $10.5\text{cm} \times 8\text{cm} =$   
 **$84\text{cm}^2$**

# Compound Shapes

To calculate the area of these shapes, work out the area of the different parts and then add them together.



Area:  $(6\text{cm} \times 5\text{cm}) + (4\text{cm} \times 2\text{cm}) = 30\text{cm}^2 + 8\text{cm}^2 = 38\text{cm}^2$

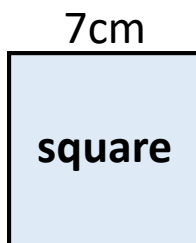
## Perimeter

### Rectangles & Squares

**Perimeter** is the **distance** around the **edge** of a **2D shape**.

It is measured in either **mm**, **cm** or **m**.

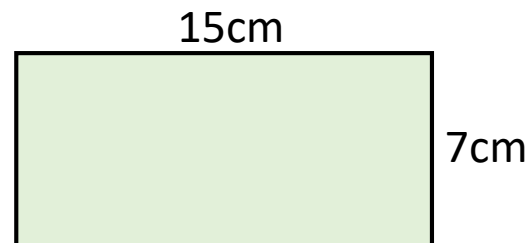
for a square,  
multiply the  
length of one  
side by 4



**Perimeter:**

$$7\text{cm} \times 4 = 28\text{cm}$$

for a rectangle,  
use the formula  
 $(\text{length} + \text{width}) \times 2$  OR  
 $(\text{length} \times 2) + (\text{width} \times 2)$



**Perimeter:**

$$(15\text{cm} + 7\text{cm}) \times 2 = 44\text{cm}$$

## Area (A) and Perimeter (P)

It is possible for shapes with the **same perimeter** to have **different areas** and **vice versa**.

$P = 22\text{cm}$	$P = 22\text{cm}$	$P = 22\text{cm}$	$P = 20\text{cm}$
$A = 28\text{cm}^2$	$A = 30\text{cm}^2$	$A = 24\text{cm}^2$	$A = 24\text{cm}^2$
.....same.....	.....different.....	.....different.....	.....same.....