

Reasoning and Measures

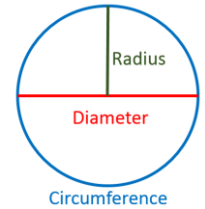
Vocabulary

Perimeter – Distance around the outside of a shape

Area – The measure of space inside a shape

Circumference – The perimeter of a circle

Compound – To combine two or more things together

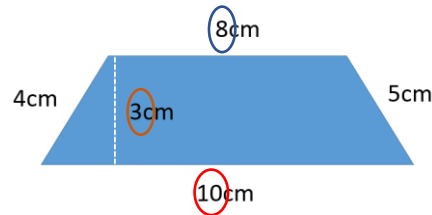


Trapezium

Mathswatch Video: G20d

Example: Find the area of the trapezium

$$\begin{aligned} \text{area} &= \frac{(a+b)}{2} \times h \\ \text{area} &= \frac{(8+10)}{2} \times 3 \\ \text{area} &= 27\text{cm}^2 \end{aligned}$$



Circles

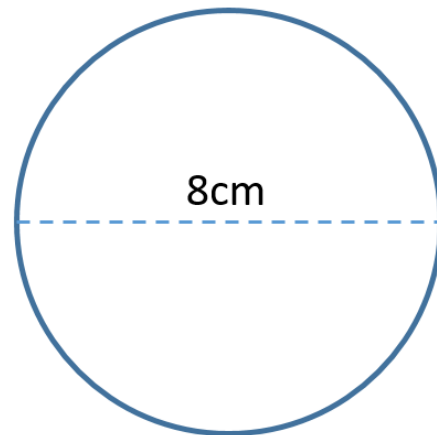
Mathswatch Video: G22a/b

When finding the area and circumference of circles, we need to use pi, π . We can either use a **calculator** for these questions or we can give our **answer in terms of pi, π** .

Example:

$$\begin{aligned} \text{area} &= \pi \times \text{radius}^2 \\ C &= \pi \times 4^2 \\ C &= 16\pi\text{cm}^2 \\ C &= 50.27\text{cm}^2 \end{aligned}$$

$$\begin{aligned} \text{circumference} &= \pi \times \text{diameter} \\ C &= \pi \times 8 \\ C &= 8\pi\text{cm} \\ C &= 25.13\text{cm} \end{aligned}$$



Parallelogram

Mathswatch Video: G20a/b/c/d

Here is a table with all the equations you should be familiar with for finding area and perimeter.

<p>Rectangle</p>	$\text{Area} = l \times w$
	$\text{Perimeter} = l + l + w + w$
<p>Triangle</p>	$\text{Area} = \frac{b \times h}{2}$
	$\text{Perimeter} = a + b + c$
<p>Parallelogram</p>	$\text{Area} = b \times h$
	$\text{Perimeter} = b + b + l + l$
<p>Trapezium</p>	$\text{Area} = \frac{(a+b)}{2} \times h$
	$\text{Perimeter} = a + b + c + d$
<p>Circle</p>	$\text{Area} = \pi r^2$
	$\text{Perimeter} = 2\pi r = \pi d$