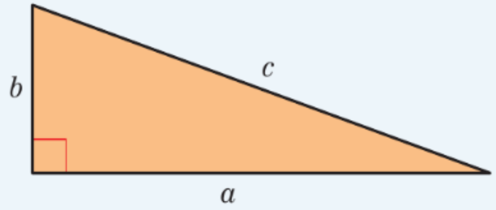
Foundation Unit 12
Right Angled Triangles

Key point 2

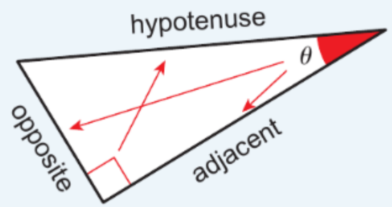
Pythagoras' theorem shows the relationship between the lengths of the three sides of a right-angled triangle.

$c^2 = a^2 + b^2$



Key point 6

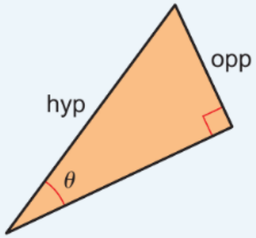
The side opposite the right angle is called the **hypotenuse**.
The side opposite the angle θ is called the **opposite**.
The side next to the angle θ is called the **adjacent**.



Key point 7

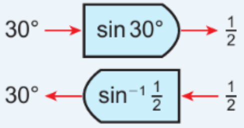
In a right-angled triangle the sine of an angle is the ratio of the **opp**osite side to the **hyp**otenuse.
The sine of angle θ is written as **sin θ**.

$\sin\theta = \frac{\text{opp}}{\text{hyp}}$



Key point 8

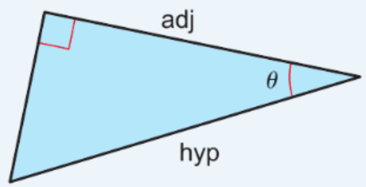
When you know the value of sin θ, you can use **sin^{-1}** on a calculator to find θ.



Key point 9

In a right-angled triangle the **cosine** of an angle is the ratio of the **adj**acent side to the **hyp**otenuse.
The cosine of angle θ is written as **cos θ**.

$\cos\theta = \frac{\text{adj}}{\text{hyp}}$



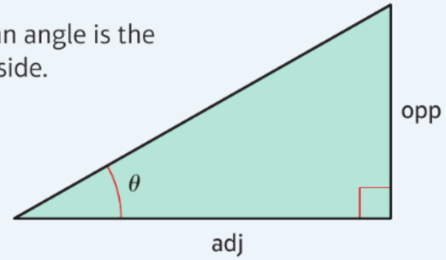
Key point 10

When you know the value of cos θ, you can use **cos^{-1}** on a calculator to find θ.

Key point 11

In a right-angled triangle the **tangent** of an angle is the ratio of the **opp**osite side to the **adj**acent side.
The tangent of angle θ is written as **tan θ**.

$\tan\theta = \frac{\text{opp}}{\text{adj}}$



Key point 13

When you know the value of tan θ, you can use **tan^{-1}** on a calculator to find θ.

Key point 15

You need to know these values.

$\sin 0° = 0$	$\sin 30° = \frac{1}{2}$	$\sin 45° = \frac{1}{\sqrt{2}}$	$\sin 60° = \frac{\sqrt{3}}{2}$	$\sin 90° = 1$
$\cos 0° = 1$	$\cos 30° = \frac{\sqrt{3}}{2}$	$\cos 45° = \frac{1}{\sqrt{2}}$	$\cos 60° = \frac{1}{2}$	$\cos 90° = 0$
$\tan 0° = 0$	$\tan 30° = \frac{1}{\sqrt{3}}$	$\tan 45° = 1$	$\tan 60° = \sqrt{3}$	