

## Stage 9 – Geometry: Calculating Space

Know it!



Knowledge	
I know...	The definitions and properties of a circle.
I know...	How to calculate the arc length and area of a sector.
I know...	How to find the angle of a sector using the arc length and radius.
I know...	How to find the surface area of prisms and cylinders.
I know...	And can use Pythagoras' Theorem to find the hypotenuse and other side in a right angled triangle.
I know...	How to solve problems using Pythagoras' Theorem in 2D.

Link it!



Backward	Forward
Area and circumference of circles/semi circles/quadrants. Area of common 2D shapes.	Trig Ratios Volume and surface area of cones, pyramids and spheres.

Prove it!



Always, sometimes, never: If  $a^2 + b^2 = c^2$ , and triangle with side a, b and c is right angled.

Kenny thinks it is possible to use Pythagoras' theorem to find the height of isosceles triangles that are not right- angled. Do you agree with Kenny? Explain your answer.

Say it!



Vocabulary	Definition
<b>Chord</b>	A straight line that goes across a circle from one side of the circumference to the other, but it does NOT pass through the centre.
<b>Arc</b>	Part of the circumference of a circle.
<b>Sector</b>	The areas of a circles created from two radii.
<b>Segment</b>	The areas of a circle created from a chord.
<b>Tangent</b>	A straight line that just touches the circumference of a circle.
<b>Pi (<math>\pi</math>)</b>	An irrational number that is found when dividing the length of the circumference by the length of a diameter in a circle. $\pi = 3.141 \dots$
<b>Prism</b>	A 3D solid object with two identical ends and flat sides. It has a constant cross section.
<b>Cross-section</b>	A view into the inside of something made by cutting through it. In Geometry it is the shape made when a solid is cut through parallel to the base.
<b>Hypotenuse</b>	The long length side of a right angled triangle, it is always opposite the right angle.
<b>Pythagoras' Theorem</b>	A formula that says, in a right angled triangle, the sum of the area of the squares produced from the two shorter sides will equal the area of the square produced from the hypotenuse. $a^2 + b^2 = c^2$

