

WHAT DO WE ALREADY *know?*

- Understand Pythagoras Theorem in 2D.
- Use basic trigonometry to find missing sides or angles in 2D.

Stage 11 Investigating Properties of Shapes



- Use Pythagoras to solve problems in 3D.
- Use basic trigonometry to solve problems in 3D.
- Use further trigonometry (sine rule and cosine rule) to find missing angles and lengths.
- Use sine to find the area of a triangle.

KEYWORDS

- Diagonal (Face Diagonal, Space Diagonal)-from Latin diagonalis, from diagonus "slanting line"
- Plane-"flat surface, simplest of all geometrical surfaces," c. 1600, from Latin planum
- Opposite, Adjacent, Hypotenuse
- Trigonometry
- Sine, Cosine, Tangent
- Angle of elevation, angle of depression

Calculating Space - Targets	Before Topic	After Topic	Teacher Mark
Use Pythagoras Theorem to find the length of any diagonal in a cuboid.			
Use Pythagoras Theorem to solve problems in any 3-Dimensional figure.			
Use basic trigonometry to find the angle between a length and a plane.			
Use basic trigonometry to solve problems involving missing sides and angles in 3D.			
Know and use the Sine Rule to find missing sides and angles in non-right angled triangles.			
Know and use the Cosine Rule to find missing sides and angles in non-right angled triangles			
Solve multi-step problems involving a mixture of Pythagoras and Trigonometry.			
Solve complex problems involving bearings.			