Stage 10 – Investigating Properties of Shapes

WHAT DO WE ALREADY *know*?

- Understand and work with similar shapes
- **Solve linear equations, including those with the unknown in the denominator of a fraction**
- Understand and use Pythagoras' theorem

- Make links to similarity (including trigonometric ratios) and scale factors
- **Know the exact values of sinθ and cosθ for θ = 0°, 30°, 45°, 60° and 90°**
- Know the exact value of tanθ for θ = 0°, 30°, 45° and 60°
- **Know the trigonometric ratios, sinθ = opposite/hypotenuse, cosθ = adjacent/hypotenuse, tanθ = opposite/adjacent**
- Apply it to find angles and lengths in right-angled triangles in two dimensional figures

Similar
Opposite
Adjacent-early 15c., "contiguous, bordering; close, nearby," from Latin adiacentem say *ad jay sent*
Hypotenuse
Trigonometry
Function-Latin functionem (nominative functio) "a performance, an execution,"
Ratio
Sine
Cosine
Tangent
Elevation-Latin elevationem (nominative elevatio) "a lifting up,"
Depression

Year 10 – Investigating Properties of Shapes - Targets	Before Topic	After Topic	Teacher Mark
Appreciate that the ratio of corresponding sides in similar triangles is constant			
Choose an appropriate trigonometric ratio that can be used in a given situation			
Understand that sine, cosine and tangent are functions of an angle			
Establish the exact values of sinθ and cosθ for θ = 0°, 30°, 45°, 60° and 90°			
Establish the exact value of tanθ for θ = 0°, 30°, 45° and 60°			
Use a calculator to find the sine, cosine and tangent of an angle			
Know the trigonometric ratios, sinθ = opp/hyp, cosθ = adj/hyp, tanθ = opp/adj			
Set up and solve a trigonometric equation to find a missing side in a right-angled triangle			
Set up and solve a trigonometric equation when the unknown is in the denominator of a fraction			
Set up and solve a trigonometric equation to find a missing angle in a right-angled triangle			
Use trigonometry to solve problems involving bearings			
Use trigonometry to solve problems involving an angle of depression or an angle of elevation			