


Subject	Year	Month	
Mathematics	11	September	
Topic:			
Further Trigonometry			6 lessons
Content (Intent)			
Prior Learning Year 10 Basic trigonometry January	Future Learning Year 11 Graphs of trig functions September Year 12 Pure Chapter 9 Trigonometric ratios Mech Chapter 8 Modelling		
Objectives <ul style="list-style-type: none"> Know and apply $\text{Area} = \frac{1}{2} ab \sin C$ to calculate the area, sides or angles of any triangle. Know the sine and cosine rules, and use to solve 2D problems (including bearings). Use the sine and cosine rules to solve 3D problems. Understand the language of planes, and recognise the diagonals of a cuboid. Solve geometrical problems on coordinate axes. Understand, recall and use trigonometric relationships and Pythagoras' Theorem in right-angled triangles, and use these to solve problems in 3D configurations. Calculate the length of a diagonal of a cuboid. Find the angle between a line and a plane. 			
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)	
<p>The cosine rule is used when we have SAS and used to find the side opposite the 'included' angle or when we have SSS to find an angle.</p> <p>Ensure that finding angles with 'normal trig' is refreshed prior to this topic.</p> <p>Students may find it useful to be reminded of geometrical facts, e.g. in a triangle the shortest side is opposite the smallest angle</p> <p>The sine and cosine rules and general formula for the area of a triangle are not given on the formulae sheet.</p> <p>In multi-step questions emphasise the importance of not rounding prematurely and using exact values where appropriate.</p> <p>Whilst 3D coordinates are not included in the programme of study, they provide a visual introduction to trigonometry in 3D.</p>		End of half term no End of Year Mocks in November yr11 How can parents help at home? MathsWatch clips (Qualification KS4) 202a: The Sine Rule 202b: The Cosine Rule 203: Area of Triangle using Sine 217: Pythagoras in 3D 218: Trigonometry in 3D	
Further reading/discussion			
Reading / Enrichment	Literacy	Numeracy Links	Careers Links Product designer Architect Robotics Engineer