


Subject	Year	Month	
Mathematics	11	September	
Topic:			
Pythagoras and Trigonometry (revision)			6 lessons
Content (Intent)			
Prior Learning Year 9 GCSE Pythagoras and trigonometry		Future Learning	
Objectives <ul style="list-style-type: none"> Understand, recall and use Pythagoras' Theorem in 2D, including leaving answers in surd form; Given 3 sides of a triangle, justify if it is right-angled or not; Calculate the length of the hypotenuse in a right-angled triangle, including decimal lengths and a range of units; Find the length of a shorter side in a right-angled triangle; Apply Pythagoras' Theorem with a triangle drawn on a coordinate grid; Calculate the length of a line segment AB given pairs of points; Understand, use and recall the trigonometric ratios sine, cosine and tan, and apply them to find angles and lengths in general triangles in 2D figures; Use the trigonometric ratios to solve 2D problems; Find angles of elevation and depression; Round answers to appropriate degree of accuracy, either to a given number of significant figures or decimal places, or make a sensible decision on rounding in context of question; Know the exact values of $\sin \theta$ and $\cos \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90°; know the exact value of $\tan \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60°. 			
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)	
<p>Students may need reminding about surds. Drawing the squares on the 3 sides will help to illustrate the theorem. Include examples with triangles drawn in all four quadrants. Scale drawings are not acceptable. Calculators need to be in degree mode. To find in right-angled triangles the exact values of $\sin \theta$ and $\cos \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90°, use triangles with angles of $30^\circ, 45^\circ$ and 60°. Use a suitable mnemonic to remember SOHCAHTOA. Use Pythagoras' Theorem and trigonometry together.</p>		End of half term no End of Year Year 11 mocks in November	
		How can parents help at home?	
		MathsWatch clips Qualification KS3: G30, G35ab Qualification KS4: 150abc, 168, 173	
Further reading/discussion			
Reading / Enrichment		Literacy	Numeracy Links Careers Links https://careertrend.com/info-8466810-jobs-use-pythagorean-theorem.html Management, agriculturist, surveyor, cartographer,

			production worker, geologist, sailor, engineer,
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