

Year 12 AS-level Mathematics Curriculum Sequence

Subject Intent: For every learner to be confident and fluent mathematicians who enjoy and succeed in mathematics, leaving school with a solid foundation of mathematical skills, knowledge and understanding, primed for their chosen fields in the 21st century.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Big idea/Theme	<ul style="list-style-type: none"> • Algebraic expressions • Quadratics • Equations and inequalities • Straight line graphs • Circles • Algebraic methods 	<ul style="list-style-type: none"> • Equations and inequalities • Graphs and transformations • Trigonometric ratios • Algebraic methods • The binomial expansion • Vectors 	<ul style="list-style-type: none"> • Trigonometric ratios • Trigonometric identities and equations • Exponentials and logarithms • Vectors • Differentiation 	<ul style="list-style-type: none"> • Exponentials and logarithms • Functions and graphs • Sequences and series • Differentiation • Integration 	<ul style="list-style-type: none"> • Sequences and series • Radians • Trigonometric functions • Algebraic methods • Binomial expansion 	Revision of all Pure 1 topics
Links to key stage 4 prior knowledge needed	<ul style="list-style-type: none"> • Collect like terms • Laws of indices • Expand brackets • HCF • Simplify fractions • Solve equations • Factorise quadratics • Sketch graphs • Solve linear inequalities • Use set notation • Simplify surds • Identify special points of a quadratic graph 	<ul style="list-style-type: none"> • Use set notation • Simplify surds • Identify special points of a quadratic graph • Factorise quadratics • Sketch quadratics • Plot cubic graphs • Solve equations • SOHCAHTOA • Transformation of functions • Index laws 	<ul style="list-style-type: none"> • SOHCAHTOA • Transformation of functions • Repeated trigonometric solutions • SOHCAHTOA • Solve equations • Evaluate expression involving powers • Index laws • Plot a scatter graph • Translate shapes 	<ul style="list-style-type: none"> • Evaluate expression involving powers • Index laws • Plot a scatter graph • Change of subject • Simplify algebraic expressions and fractions • Sketch graphs • Evaluate functions • Continuing sequences 	<ul style="list-style-type: none"> • Change of subject • Simplify algebraic expressions and fractions • Sketch graphs • Evaluate functions • Evaluate exact trigonometric values • Simplify trigonometric expressions • Prove trigonometric identities 	

	<ul style="list-style-type: none"> • Solve linear simultaneous equations • Simplify surds • Change the subject of a formula • Completing the square • Find the equation of a line from two points • Use the discriminant • Find the equation of a perpendicular line • Index laws • Factorise quadratics • Long division • Find the equation of a line through 2 points • Completing the square 	<ul style="list-style-type: none"> • Factorise quadratics • Long division • Find the equation of a line through 2 points • Completing the square • Expand brackets • Index laws • Translate shapes • Convert ratios to fractions • Solve triangles 	<ul style="list-style-type: none"> • Convert ratios to fractions • Solve triangles • Find gradient form a graph • Index laws • Find the equation of a line through two points • Find the equation of a perpendicular line 	<ul style="list-style-type: none"> • Equations involving exponentials • Find gradient form a graph • Index laws • Find the equation of a line through two points • Find the equation of a perpendicular line • Index laws • Differentiate polynomials • Expand brackets 	<ul style="list-style-type: none"> • Trigonometric equations • Repeated trigonometric roots • Prove trigonometric identities • Trigonometric equations • Factorise quadratics • Simplify algebraic fractions • Representing odd and even numbers • Binomial expansions for positive integer powers • Partial fractions 	
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