



Network School AS Long Term Curriculum Plan

Subject – Pure Mathematics 3				
Year Group	Term 1 (Aug – Oct)	Term 2 (Oct – Dec)	Term 3 (Jan – Mar)	Term 4 Mar – Jun)
Year 13 (A Level)	<p><u>Chapter 1 - Algebra</u> A – The modulus of a linear function B – Dividing polynomials C – The factor theorem and the remainder theorem D – Partial fractions E - Binomial expansions</p> <p>Review /Topic tests</p> <p><u>Chapter 2 – Logarithms and exponential functions</u> A – Logarithms B – Logarithms in other bases C – The number 'e' D – Natural logarithms E - Using logarithms to solve equations and inequalities F - Logarithmic graphs</p> <p>Review /Topic tests</p> <p><u>Chapter 3 – Trigonometry</u> A – Addition and subtraction formulae B – Double angle formulae</p>	<p><u>Chapter 6 – Vectors</u> A – Definition of a vector B – Vector geometry C - Magnitude of a vector D – Position vector E – Vector equation of a straight line F - Parallel, intersecting and skew lines G – Scalar product</p> <p>Review /Topic tests</p> <p><u>Chapter 7 – Differential equations</u> A – Constructing differential equations B – Solving differential equations by integration C – Separation of variables</p> <p>Review /Topic tests</p> <p><u>Chapter 8 – Complex numbers</u> A – Definition of a complex number</p>	<p><u>Revision</u></p> <p>Using worksheets – topic by topic</p> <p>Preparing for the mock exam</p> <p>Reviewing mock exam results.</p> <p>More revision – using past question papers</p>	<p>Final preparation for A level exams</p>



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	<p>C – The expression '$a\sin\theta + b\cos\theta$' D – The secant, cosecant and tangent functions E – More trigonometric identities</p> <p>Review /Topic tests</p> <p><u>Chapter 4 – Differentiation</u> A – Differentiating e^x B – Differentiating $\ln x$ C – Differentiating $\sin x$ and $\cos x$ D – The product rule E - The quotient rule F - Differentiation $\tan^{-1}x$ G - Differentiating parametric equations H - Differentiating implicit equations</p> <p>Review /Topic tests</p> <p><u>Chapter 5 - Integration</u> A – The trapezium rule B – Recognising integrals C – Integration using trigonometrical relationships D – Integrating $\frac{1}{x^2 + a^2}$</p>	<p>B – Addition, subtraction, multiplication and division of complex numbers C – Complex roots of polynomial equations D – Polar form E – Geometric effects F – Tangents and Normals G – Loci</p> <p>Review /Topic tests</p> <p><u>Chapter 9 – Numerical solution of equations</u> A – Finding roots B – How change of sign methods can fail C – Iterative methods D – How iterative methods can vary</p> <p>Review /Topic tests</p>		
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	<p>E – Integrating expressions of the form $\frac{f'(x)}{f(x)}$</p> <p>F – Integration using partial fractions</p> <p>G – Integration using a substitution</p> <p>H - Integration by parts</p> <p>Review /Topic tests</p>			
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