



(AS-Level Mathematics) Year 12 Long Term Plan

Rationale (with end points): In year 12 students gain a deeper understanding of key concepts in Algebra, statistics and Geometry as well as new concepts in the pure and applied side. Students use skills learnt to apply them to modelling type questions.

Term	Topic	Knowledge	Skills	Reading /wider reading
<i>Autumn term 1</i>	Pure	<ul style="list-style-type: none"> Algebra & Functions 	Edexcel Specification - detailed skills for each topic and knowledge	The Proving Ground (Jonny Griffiths)
	Statistics	<ul style="list-style-type: none"> Statistical sampling Data presentation and interpolation 		Six Books of Euclid (Oliver Byrne & Werner Oechslin)
<i>Autumn 2</i>	Pure	<ul style="list-style-type: none"> Coordinate geometry in the (x, y) plane Further algebra Trigonometry 		Edexcel Specification - detailed skills for each topic and knowledge
	Statistics	<ul style="list-style-type: none"> Data presentation and interpolation 	Proofs without Words II: v. 2 (Classroom Resource Materials) (Roger B.Nelsen)	
<i>Spring 1</i>	Pure	<ul style="list-style-type: none"> Trigonometry Vectors (2D) Differentiation 	Edexcel Specification - detailed skills for each topic and knowledge	
	Statistics	<ul style="list-style-type: none"> Data presentation and interpolation Probability Statistical distribution 		
	Mechanics	<ul style="list-style-type: none"> Quantities and units in mechanics Kinematics 1 (constant acceleration 		



Spring 2	Pure	<ul style="list-style-type: none"> • Differentiation • Integration • Exponentials and logarithms 		Geometry Teaching (Chris Pritchard)
	Statistics	<ul style="list-style-type: none"> • Statistical hypothesis testing 		Mathematician's Delight (Dover Science Books) (W.W. Sawyer)
	Mechanics	<ul style="list-style-type: none"> • Forces & Newton's Laws 		The Art of Logic in an Illogical World (Eugenia Cheng)
Summer 1	Pure	<ul style="list-style-type: none"> • Exponentials 		
	Mechanics	<ul style="list-style-type: none"> • Kinematics 2 (variable acceleration) 		
	Revision Year 12 AS Level Internal Examinations			
Summer 2	Pure	<ul style="list-style-type: none"> • Proof • Algebraic & partial fractions 		
	Statistics	<ul style="list-style-type: none"> • Regression & correlation 		
	Mechanics	<ul style="list-style-type: none"> • Moments 		