Maths Year 12 pure curriculum map



Year 12	T1	T2	Т3	T4	Т5	Т6
Content / Topic for Term	Indices and surds Polynomials and algebra Coordinate geometry 1 (linear functions) Calculus 1 (differentiation) STATISTICS (see separate curriculum map)	Binomial expansion Coordinate geometry 2 (graphs) Calculus 2 (differentiation) Logarithms 1 STATISTICS (see separate curriculum map)	Coordinate geometry 3 (circles) Trigonometry Calculus 3 (Integration) STATISTICS (see separate curriculum map)	Logarithms 2 Proof Vectors MECHANICS (see separate curriculum map)	Indices and Surds Polynomials and algebra Coordinate geometry 1 (linear functions) Calculus 1 (differentiation) STATISTICS (see separate curriculum map)	Binomial expansion Coordinate geometry 2 (graphs) Calculus 2 (differentiation) Logarithms 1 STATISTICS (see separate curriculum map)
Key knowledge for acquisition, recall and application in assessment or exam	 Simplifying and manipulating surds Applying the rules of indices to solve exponential equations Expanding brackets/factorising Solving linear, quadratic, and simultaneous equations Completing the square Use of discriminant 	 Use of factorials Binomial expansion formula and its applications Recognise and sketch quadratic, cubic, quartic and reciprocal graphs Transform graphs Work out points of intersection between graphs and the x-y axes Differentiate polynomials 	 General equation of a circle Finding centre, radius, and diameter of a circle Application of Pythagoras and SOHCAHTOA to right-angled triangles within a circle Equations of tangents to circles 	 Natural logarithms Use linear models to estimate parameters of log functions Solve exponential growth and decay problems Know when to use proof by deduction, exhaustion and 	 Simplifying and manipulating surds Applying the rules of indices to solve exponential equations Expanding brackets/factorising Solving linear, quadratic, and simultaneous equations Completing the square Use of discriminant 	 Use of factorials Binomial expansion formula and its applications Recognise and sketch quadratic, cubic, quartic and reciprocal graphs Transform graphs Work out points of intersection between graphs and the x-y axes

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	• Application of long		- Circle theorems	counter	• Application of long	• Difforontiato
	Application of long		• Circle theorems	counter-	Application of long	
	division to algebraic	WORK OUT	from GCSE and	example	division to algebraic	polynomials
	division	stationary points	their applications	Use Pythagoras	division	Use calculus to
	Use of factor and	Work out	Sine and cosine	to calculate	• Use of factor and	work out
	remainder theorem	equations of	rule and area of	magnitude of a	remainder theorem	stationary points
	 Know and use both 	tangents and	triangle formulae	vector	 Know and use both 	 Work out
	formulae for	normals	and their	• Use	formulae for	equations of
	equations of a line	 Understand and 	applications	trigonometry to	equations of a line	tangents and
	 Equations for 	articulate the link	 Recognising and 	calculate	 Equations for 	normals
	midpoint and	between	transforming	direction of a	midpoint and	 Understand and
	gradient	logarithms and	graphs of trig	vector	gradient	articulate the link
	 Equations of parallel 	indices	functions	 Identify parallel 	 Equations of 	between
	and perpendicular	 Know and apply 	 CAST diagram 	and colinear	parallel and	logarithms and
	lines	the three laws of	 Solving trig 	vectors	perpendicular lines	indices
	• 1 st principles formula	logs to simplify or	equations	• Work out	• 1 st principles	• Know and apply
	 Understand that 	evaluate	• Two trig identities	relative	formula	the three laws of
	differentiating	logarithms	 Know that 	displacement of	 Understand that 	logs to simplify
	determines the		integration is the	two vectors and	differentiating	or evaluate
	gradient of a curve at		inverse of	be able to show	determines the	logarithms
	any point		differentiation	this using a	gradient of a curve	Ŭ
			• Work out definite	diagram	at any point	
			and indefinite			
			integrals			
			Calculate the area			
			under a curve by			
			integration			
Key skills to	 Indices and surds 	Binomial	Coordinate	• Logarithms 2	 Indices and surds 	Binomial
apply in	Polynomials and	expansion	geometry 3	Proof	Polynomials and	expansion
assessment	algebra	CAPATISION	(circles)	Vectors	algebra	слраныон
or exam	uigen u		Trigonometry		algebra	
			• mgonometry	1		

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Coordinate geometry	Coordinate	Calculus 3	MECHANICS	Coordinate	Coordinate
1 (linear functions)	geometry 2	(Integration)	(see separate	geometry 1 (linear	geometry 2
Calculus 1	(graphs)	 STATISTICS (see 	curriculum	functions)	(graphs)
(differentiation)	Calculus 2	separate	map)	Calculus 1	Calculus 2
 STATISTICS (see 	(differentiation)	curriculum map)		(differentiation)	(differentiation)
separate curriculum	 Logarithms 1 			 STATISTICS (see 	Logarithms 1
map)	 STATISTICS (see 			separate curriculum	 STATISTICS (see
	separate			map)	separate
	curriculum map)				curriculum map)