Atomi HSC Maths Extension 1 Study Plan

EXAM DATE: 19 NOV 2021

Revision (5–6 weeks from exam)

Session	Topic	Subtopic	Important lessons	Done
1	**Functions**	Further Work with Functions (Graphical Relationships, Inequalities, Inverse Functions)	Inequalities with a Variable in the Denominator, Graphing Inverse Functions	○
2		Further Work with Functions (Parametric form of a function or relation)	Parametric Equations of Curves (Part 1) and (Part 2)	○
		Polynomials	The Factor Theorem, The Remainder Theorem	○
3	**Trigonometric Functions**	Inverse Trigonometric Functions	General Solutions	○
		Further Trigonometric Identities and Trigonometric Equations	The t-formula, Trigonometric Identities and Equations	○
4	**Calculus**	Rates of Change	Exponential Growth and Decay	○
		Further Calculus Skills	Integrating the Inverse Trigonometric Functions	○
5		Applications of Calculus	Volumes for Solids of Revolution, Solving Differential Equations: Separation of Variables	○
6	**Combinatorics**	Working with Combinatorics	Probability Questions, The Binomial Theorem	○
7	**Proof**	Proof by Mathematical Induction		○
8	**Vectors**	Introduction to Vectors and Further Operations with Vectors	Position Vectors, Perpendicular Vectors, Parallel Vectors, Using Vector Projections	○
		Projectile Motion	Applying Projectile Motion (Part 1) and (Part 2)	○
	Statistical Analysis	The Binomial Distribution and The Normal Approximation for the Sample Proportion	Binomial Distribution - Exam Application (Part 1 and 2), Using the Normal Approximation for the Sample	○

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Practice (3–4 weeks from exam)

Session	Topic	Subtopic	Confidence	Done
9	**Functions**	Further Work with Functions (Graphical Relationships, Inequalities, Inverse Functions)	○ ○ ○ ○ ○	○
10		Further Work with Functions (Parametric form of a function or relation)	○ ○ ○ ○ ○	○
		Polynomials	○ ○ ○ ○ ○	○
11	**Trigonometric Functions**	Inverse Trigonometric Functions	○ ○ ○ ○ ○	○
		Further Trigonometric Identities	○ ○ ○ ○ ○	○
		Trigonometric Equations	○ ○ ○ ○ ○	○
12	**Calculus**	Rates of Change	○ ○ ○ ○ ○	○
		Further Calculus Skills	○ ○ ○ ○ ○	○
13		Applications of Calculus	○ ○ ○ ○ ○	○
14	**Combinatorics**	Working with Combinatorics	○ ○ ○ ○ ○	○
15	**Proof**	Proof by Mathematical Induction	○ ○ ○ ○ ○	○
16	**Vectors**	Introduction to Vectors and Further Operations with Vectors	○ ○ ○ ○ ○	○
		Projectile Motion	○ ○ ○ ○ ○	○
	Statistical Analysis	The Binomial Distribution and The Normal Approximation for the Sample Proportion	○ ○ ○ ○ ○	○