Pre IB Maths Courses

A Graphical Display Calculator (GDC) is required for all courses. Sevenoaks will teach the use of the TI-NSpire calculator as part of our maths courses.

	Analysis	**Applications**
Day 1	**Functions** • Domain and range • Composite • Inverse	**Functions** • Domain and range • Composite • Inverse
	Trigonometry • Sine/Cosine rules and area of a non-right angled triangle • Radians • Unit circle • Trigonometric identities and equations	**Trigonometry** • Sine/Cosine rules and area of a non-right angle triangle • Radians • Unit circle • Trigonometric identities and equations
	Exponentials and Logarithms • Exponential equations • Definition and laws of logarithms	**Exponentials and Logarithms** • Exponential equations • Definition and laws of logarithms
Day 2	**Differentiation** • First principles • Gradient function • Increasing and decreasing functions • Tangents and normals • Stationary points • Second derivative • Chain rule	**Differentiation** • First principles • Gradient function • Increasing and decreasing functions • Tangents and normals • Stationary points • Second derivative • Chain rule
	Integration • Antidifferentiation • Boundary conditions • Area between a curve and either axis • Area between two curves • Reverse chain rule	**Integration** • Antidifferentiation • Boundary conditions • Area between a curve and either axis • Area between two curves • Reverse chain rule
D a	**Sequences and series**	**Sequences and series**

	• Sigma notation • Arithmetic • Geometric	• Sigma notation • Arithmetic • Geometric
	Algebra • Quadratics • Binomial expansion • Algebraic division • Systems of linear equations	**Probability** • Combined events • Conditional probability • Independent events • Probability distributions
		Matrices • Addition and subtraction • Multiplication