

## 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.

	<b>Analysis</b>	<b>Applications</b>
<b>Day 1</b>	<b>Functions</b> <ul style="list-style-type: none"> <li>• Domain and range</li> <li>• Composite</li> <li>• Inverse</li> </ul>	<b>Functions</b> <ul style="list-style-type: none"> <li>• Domain and range</li> <li>• Composite</li> <li>• Inverse</li> </ul>
	<b>Trigonometry</b> <ul style="list-style-type: none"> <li>• Sine/Cosine rules and area of a non-right angled triangle</li> <li>• Radians</li> <li>• Unit circle</li> <li>• Trigonometric identities and equations</li> </ul>	<b>Trigonometry</b> <ul style="list-style-type: none"> <li>• Sine/Cosine rules and area of a non-right angle triangle</li> <li>• Radians</li> <li>• Unit circle</li> <li>• Trigonometric identities and equations</li> </ul>
	<b>Exponentials and Logarithms</b> <ul style="list-style-type: none"> <li>• Exponential equations</li> <li>• Definition and laws of logarithms</li> </ul>	<b>Exponentials and Logarithms</b> <ul style="list-style-type: none"> <li>• Exponential equations</li> <li>• Definition and laws of logarithms</li> </ul>
<b>Day 2</b>	<b>Differentiation</b> <ul style="list-style-type: none"> <li>• First principles</li> <li>• Gradient function</li> <li>• Increasing and decreasing functions</li> <li>• Tangents and normals</li> <li>• Stationary points</li> <li>• Second derivative</li> <li>• Chain rule</li> </ul>	<b>Differentiation</b> <ul style="list-style-type: none"> <li>• First principles</li> <li>• Gradient function</li> <li>• Increasing and decreasing functions</li> <li>• Tangents and normals</li> <li>• Stationary points</li> <li>• Second derivative</li> <li>• Chain rule</li> </ul>
	<b>Integration</b> <ul style="list-style-type: none"> <li>• Antidifferentiation</li> <li>• Boundary conditions</li> <li>• Area between a curve and either axis</li> <li>• Area between two curves</li> <li>• Reverse chain rule</li> </ul>	<b>Integration</b> <ul style="list-style-type: none"> <li>• Antidifferentiation</li> <li>• Boundary conditions</li> <li>• Area between a curve and either axis</li> <li>• Area between two curves</li> <li>• Reverse chain rule</li> </ul>
<b>D 9</b>	<b>Sequences and series</b>	<b>Sequences and series</b>

	<ul style="list-style-type: none"> <li>• Sigma notation</li> <li>• Arithmetic</li> <li>• Geometric</li> </ul>	<ul style="list-style-type: none"> <li>• Sigma notation</li> <li>• Arithmetic</li> <li>• Geometric</li> </ul>
	<p><b>Algebra</b></p> <ul style="list-style-type: none"> <li>• Quadratics</li> <li>• Binomial expansion</li> <li>• Algebraic division</li> <li>• Systems of linear equations</li> </ul>	<p><b>Probability</b></p> <ul style="list-style-type: none"> <li>• Combined events</li> <li>• Conditional probability</li> <li>• Independent events</li> <li>• Probability distributions</li> </ul>
		<p><b>Matrices</b></p> <ul style="list-style-type: none"> <li>• Addition and subtraction</li> <li>• Multiplication</li> </ul>