

## Curriculum Overview – Autumn Term 2022-2023

**Subject:** Mathematics

**Year group:** 11, International GCSE (9-1), Higher Level

<b>Autumn Term – August to November 2022</b>			
<b>Unit number</b>	<b>Unit name</b>	<b>Key learning aspects (knowledge, understanding, skills)</b>	<b>Key assessment opportunities</b>
8	Number 8	<ul style="list-style-type: none"> <li>• Converting between units of length, area &amp; volume</li> </ul>	<ul style="list-style-type: none"> <li>• Oral responses in class</li> </ul>
7	Algebra 7	<ul style="list-style-type: none"> <li>• Solving quadratic equations by factorising</li> <li>• Simplifying algebraic expressions</li> <li>• Solving quadratic inequations</li> </ul>	<ul style="list-style-type: none"> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
7	Graphs 7	<ul style="list-style-type: none"> <li>• Sketching graphs of quadratic equations by finding the roots, the turning point and the <math>y</math>-intercept</li> <li>• Calculating the TP from the midpoint of the roots</li> <li>• Finding the max/min values of a quadratic equation</li> <li>• Using graphs to solve quadratic equations</li> <li>• Solving quadratic inequations by sketching the graph</li> <li>• Representing the solution set on a number line</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>

Unit number	Unit name	Key learning aspects (knowledge, understanding, skills)	Key assessment opportunities
8	Algebra 8	<ul style="list-style-type: none"> <li>• Functions, notation, substitution and evaluating</li> <li>• Domain and range</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
8	Shape and Space 8	<ul style="list-style-type: none"> <li>• Vectors and vector notation including column vectors</li> <li>• Add and subtract vectors in 2D</li> <li>• Multiply vectors by a scalar quantity</li> <li>• Calculate the modulus (magnitude) of a vector</li> <li>• Find the resultant of two or more vectors</li> <li>• Vector geometry, vector pathways</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
7	Shape and Space 7	<ul style="list-style-type: none"> <li>• Calculate the perimeter and area of sectors of circles</li> <li>• Calculate the arc length</li> <li>• Calculate the angle in a sector</li> <li>• Calculate volume and surface area of a prism, pyramid, cone, sphere</li> <li>• Use links between scale factors for length, area and volume</li> <li>• Solve problems involving the area and volume of similar shapes</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> <li>• Class assessment</li> </ul>
7	Sets 3	<ul style="list-style-type: none"> <li>• Use Venn diagrams to calculate probability</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
7	Graphs 6	<ul style="list-style-type: none"> <li>• Recognising and drawing graphs of cubic functions</li> <li>• Recognising and drawing graphs of reciprocal functions</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>

Unit number	Unit name	Key learning aspects (knowledge, understanding, skills)	Key assessment opportunities
6	Sequences	<ul style="list-style-type: none"> <li>• Continuing sequences</li> <li>• Formulae for sequences</li> <li>• The difference method</li> <li>• Finding a formula for a sequence</li> <li>• Arithmetic sequences</li> <li>• Sum of an arithmetic sequence</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
6	Sets 2	<ul style="list-style-type: none"> <li>• Use Venn diagrams to represent three sets</li> <li>• Solve problems involving sets</li> <li>• Use set-builder notation</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> </ul>
7	Sets 3	<ul style="list-style-type: none"> <li>• Probability</li> <li>• Conditional probability using Venn diagrams</li> </ul>	<ul style="list-style-type: none"> <li>• Regular Homework</li> <li>• Oral responses in class</li> <li>• Observations of the standard of written solutions</li> <li>• Mock assessment</li> </ul>
<b>End of Autumn Term – August to November 2022</b>			