

Curriculum Overview – Autumn Term 2022-2023

Subject: Mathematics

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

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

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

6	Sequences	<ul style="list-style-type: none"> • Continuing sequences • Formulae for sequences • The difference method • Finding a formula for a sequence • Arithmetic sequences • Sum of an arithmetic sequence 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
6	Sets 2	<ul style="list-style-type: none"> • Use Venn diagrams to represent three sets • Solve problems involving sets • Use set-builder notation 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
7	Sets 3	<ul style="list-style-type: none"> • Probability • Conditional probability using Venn diagrams 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions • Mock assessment