

Curriculum Overview – Autumn Term 2022-2023

Subject: Mathematics
Year group: 10, International GCSE (9-1)

Term 1 – August to November 2022			
Unit number	Unit name	Key learning aspects (knowledge, understanding, skills)	Key assessment opportunities
1	Number 1	<ul style="list-style-type: none"> • Working with Fractions: • Add and subtract fractions and mixed numbers; • Multiply and divide fractions and mixed numbers; • Solve problems involving fractions 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
1	Algebra 1	<ul style="list-style-type: none"> • Simplify algebraic expressions • Expand brackets • Solve equations in which the unknown appears on both sides 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
1	Graphs 1	<ul style="list-style-type: none"> • Find the gradient of a line through two points • Find the gradient and y-intercept of a straight line from its equation • Compare two straight-line graphs using their equations • Draw and interpret real-life graphs • Plot graphs of straight lines with equations $ax + by = c$, $y = ax + b$ 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions • End of unit assessment

Unit number	Unit name	Key learning aspects (knowledge, understanding, skills)	Key assessment opportunities
2	Number 2	<ul style="list-style-type: none"> • Write a number in standard form (scientific notation) • Work out a percentage increase and decrease • Calculate with numbers in standard form (scientific notation) • Solve real-life problems involving percentages 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
2	Algebra 2	<ul style="list-style-type: none"> • Multiply and divide algebraic fractions • Add and subtract algebraic fractions • Solve equations with roots and powers • Use the rule of indices (to simplify algebraic expressions) • Solve inequations and show the solution on a number line 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
2	Graphs 2	<ul style="list-style-type: none"> • Find the equation of a line • Sketch graphs using the gradient and intercepts • Solve a pair of simultaneous equations using a graph 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
2	Shape and Space 2	<ul style="list-style-type: none"> • Find the length of the hypotenuse in a right-angled triangle • Find the length of a shorter side in a right-angled triangle • Solve problems using Pythagoras' Theorem • Use the properties of angles in a circle • Use the properties of tangents to a circle • Understand and use facts about chords • Understand and use facts about the angle in a semi-circle being a right angle • Understand and use facts about angles subtended at the centre and the circumference of circles • Understand and use facts about cyclic quadrilaterals • Solve problems using circle theorems 	<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

2	Handling Data 1	<ul style="list-style-type: none">• Use Pie Charts and frequency polygons• Construct and use two-way tables• Identify misleading graphs• Decide which average is best for a set of data	<ul style="list-style-type: none">• Regular Homework• Oral responses in class• Observations of the standard of written solutions• End of unit assessment
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Term 3 – May to June 2023

Unit number	Unit name	Key learning aspects (knowledge, understanding, skills)	Key assessment opportunities
5	Number 5	<ul style="list-style-type: none"> • Use a calculator • Estimate an answer • Identify the upper and lower bound of a number given the accuracy to which it has been written (tolerance) • Solve problems using upper and lower bounds 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
5	Algebra 5	<ul style="list-style-type: none"> • Expand the product of two or more linear expressions • Factorise quadratic expressions of the form $ax^2 + bx + c$ • Solve quadratic equations by factorizing • Solve problems involving quadratic equations 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
5	Graphs 5	<ul style="list-style-type: none"> • Represent inequalities on graphs • Interpret graphs of inequalities • Find the equations of lines perpendicular to a given line • Find the coordinates of the mid-point of a line • Find the length of a line 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions
5	Shape and Space 5	<ul style="list-style-type: none"> • Translate a shape using a vector • Describe a translation • Reflect a shape in a mirror line • Describe a reflection • Rotate a reflection • Rotate a shape about a centre of rotation • Describe a rotation • Enlarge a shape about a centre of enlargement • Describe an enlargement • Carry out and describe combinations of transformations 	<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
5	Handling Data 4	<ul style="list-style-type: none"> • Use a sample space diagram to record all possible outcomes • Find the probability of mutually exclusive outcomes and events • Find the probability of an event not happening • Estimate probabilities from experimental data • Find the expected number of outcomes 	<ul style="list-style-type: none"> • Regular Homework • Oral responses in class • Observations of the standard of written solutions • End of unit assessment • Mock Exam
End of Term 3 – May to June 2023			