YEAR 12 A-LEVEL MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

To build upon and extend mathematical knowledge and skills from GCSE to A-level, studying pure maths, mechanics and statistics. To understand mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for further study. To develop problem-solving skills, making links between different areas of maths. To apply mathematics in a variety of contexts and be aware of its relevance to the world of work and to society in general. To give students a strong skill set to best prepare them for the rigour of A-level exam questions.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	Pure maths only	Pure maths, statistics and mechanics	Pure maths and statistics (and revision)	Pure, statistics and mechanics	Pure only (and mixed revision)	Pure maths only
Core Knowledge/ Threshold Concept	Understand, reason and solve problems involving: **Pure maths:** Quadratic functions. Simultaneous equations. Inequalities including graphical methods. Polynomial equations and their graphs. Coordinate geometry with lines and circles. Indices and surds. Transformations of graphs.	Understand, reason and solve problems involving: **Pure maths:** Trigonometry. Binomial expansion. Vectors in 2-D. Introduction to calculus. **Statistics:** Data processing, presentation and interpretation. Probability. **Mechanics:** Introduction to modelling. Travel graphs. Motion under constant acceleration.	Understand, reason and solve problems involving: **Pure maths:** Differentiation techniques and their applications. Integration as the reverse of differentiation and applications to areas. **Statistics:** Statistical distributions and associated probabilities. Binomial distribution. **Revision:** Revision and preparation for January exams.	Understand, reason and solve problems involving: **Pure maths:** Exponentials and logarithms. **Statistics:** Sampling techniques. Hypothesis testing. **Mechanics:** Force diagrams. Newton's laws of motion. Problems with connected particles. Using calculus in mechanics.	Understand, reason and solve problems involving: **Pure maths (start of "A2" course):** Trigonometry, including radians, identities and inverse functions. Functions, including domain and range, inverse and composite functions, modulus functions and transformations. **Mixed Revision:** Revision and preparation for summer exams.	Understand, reason and solve problems involving: **Pure maths:** Trigonometry, including addition and double-angle formulae. Formal proof including proof by contradiction. Algebraic fractions, including improper fractions and partial fractions.
Why this learning now?	Basic skills required throughout pure maths. Building on GCSE knowledge.	Introduction to statistics and mechanics. Building on existing skills in pure maths. Making a start	Revision needed for exams. Continuing to study calculus (both diff. and then integration) and linking	Completing the AS syllabus (the first half of the A-level course). Exponentials and logs links with earlier work	Making a start on A2 syllabus (2nd half of A-level course) and spending some time	Completing the trigonometry elements of the A-level course (also important within calculus topics

		on calculus, one of the biggest topics in maths A-level.	them together. Statistics topics link with earlier work on probability and with binomial expansion covered in Autumn 2.	on indices. Hypothesis testing links with binomial distribution in statistics. Use of calculus in mechanics is dependent on diff. and integration work in Spring 1.	preparing thoroughly for the summer exams. Trigonometry builds on earlier work from Autumn 1. Functions work requires knowledge of graphs and transformations covered in Autumn 1.	throughout Year 13). Extending work already done on formal proof, and combining this with other topics where applicable. Algebraic fractions link with the factor theorem from Autumn 1, binomial expansion in Year 13 and integration techniques, also in Year 13.
Assessment Opportunities:	Half-termly test. Weekly revision tasks, (starting in 4th week). Feedback from marked homework tasks.	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.	January mock exams. Weekly revision tasks. Feedback from marked homework tasks.	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.	Summer exams. Weekly revision tasks. Feedback from marked homework tasks.	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.
Learning at Home	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.
Key Vocabulary	Polynomial Roots Discriminant Tangent/normal Rationalising	Coefficient Discrete Modelling Principal value Calculus Regression Outlier	Stationary points Distribution Uniform	Logarithm Hypothesis Significance level Sampling Resultant	Domain and range Modulus Inverse Composite	Improper fraction Counter-example Exhaustion Contradiction

		Binomial Displacement/velocity				
Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment, imagination and creativity in learning -Willingness to reflect on their experiences **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively **Cultural development examples include:** -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide					
Links to careers and the world of work	Ideal preparation for university courses requiring a high level of mathematics. Links to many careers such as engineering, science, computer programming, project management, statistician, analyst, economics, architecture and graphic design. Transferable life skills include problem-solving, logical thinking, resilience, mathematical writing, working systematically, spatial reasoning, data justification and independent thinking.					

YEAR 13 A-LEVEL MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

To build upon and extend mathematical knowledge and skills from GCSE to A-level, studying pure maths, mechanics and statistics. To understand mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for further study. To develop problem-solving skills, making links between different areas of maths. To apply mathematics in a variety of contexts and be aware of its relevance to the world of work and to society in general. To give students a strong skill set to best prepare them for the rigour of A-level exam questions.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	Pure, statistics and mechanics	Pure, statistics and mechanics	Pure, statistics and mechanics (& revision)	Pure, statistics and mechanics	Mixed revision and exam practice	
Core Knowledge/ Threshold Concept	Understand, reason and solve problems involving: **Pure maths:** Differentiation including the chain rule, product rule, quotient rules and use of more complex functions. Sequences and series including arithmetic and geometric sequences, sigma notation and inductive definitions. **Statistics:** Regression, correlation and associated hypothesis testing. **Mechanics:** Resolving forces, friction and inclined planes.	Understand, reason and solve problems involving: **Pure maths:** Differentiation including inverse functions and implicit differentiation. Parametric equations. Binomial expansion with negative or rational indices, and links with partial fractions. Integration, including substitution and use or more complex functions. **Statistics:** Probability, including conditional probability and use of standard formulae and/or Venn diagrams.	Understand, reason and solve problems involving: **Pure maths:** Differentiation including points of inflection and related rates of change. Integration, including parts, use of partial fractions, parametric integration and the trapezium rule. Vectors in 3-D. **Statistics:** Normal distribution. **Mechanics:** Use of constant acceleration formulae in 2-D problems. Links with vectors. **Revision:** Revision and preparation for January exams.	Understand, reason and solve problems involving: **Pure maths:** Numerical methods, including sign-change tests, iteration and Newton-Raphson. Differential equations. **Statistics:** Normal distribution – hypothesis testing. **Mechanics:** Projectile motion. Use of calculus in mechanics with 2-D problems.	Understand, reason and solve problems involving: **Mixed Revision:** Revision and preparation for summer exams.	

		Mechanics: Moments of forces, including applications to uniform or non-uniform beams.				
Why this learning now?	Continuation of differentiation from Yr12, linking with work on trigonometry, logs and exponentials. Series work links with logarithms. Regression extends the work done in Yr12, linking also to exponentials and logs. Forces extends the work done in Yr12.	Further work on differentiation builds on existing work and links with functions and parametric. Binomial expansion is a natural extension of the work done in Yr12, linking with indices, algebraic fractions and partial fractions. Integration can be viewed as reversing differentiation so needs to be covered after the relevant differentiation topics. Probability links with Yr12 work, but using more complex problems and formal set notation. Moments builds on earlier work done on forces, and resolving in different directions.	Revision as a priority needed for January exams. Differentiation topics are the conclusion of a long chapter, all linked. Integration techniques link to differentiation, trigonometry, partial fractions and parametric equations. Vectors in 3-D are a direct follow-on from the work in Year 12 on 2-D vectors. The normal distribution uses probability, standard deviation and the binomial distribution, all covered in earlier statistics topics. Constant acceleration formulae in 2-D is a natural extension of the Year 12 topic on constant acceleration, and also includes vector notation.	Completing the full A-level course. Numerical methods in some ways are an independent topic, but they also link with all graphical work and differentiation. Differential equations rely on knowledge of all other integration techniques so need to be done after these. Hypothesis testing using the normal distribution draws together earlier work on both probability and hypothesis testing. Projectile motion in mechanics links with constant acceleration in 2-D, so needs to be covered after this. Use of calculus in mechanics with 2-D problems draws on vectors, differentiation and integration.	Full focus on exam preparation now that every topic has been taught. Using full A-level exam papers to improve exam technique and strengthen students' overview of the complete A-level syllabus. Familiarisation with common techniques and the pace required on exams.	

Assessment Opportunities:	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.	January mock exams. Weekly revision tasks. Feedback from marked homework tasks.	Half-termly test. Weekly revision tasks. Feedback from marked homework tasks.	Weekly revision tasks. Feedback from marked homework tasks. Review of completed exam papers.	
Learning at Home	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Revision focused on exam papers, mark schemes and common techniques.	
Key Vocabulary	Correlation coefficient Non-linear regression Sequence/series Recurrence Limit Resolving forces	Parametric equations Moments Conditional Inspection Implicit	Normal distribution Concave and convex Inflection	Proportional Solution curves		
Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment, imagination and creativity in learning -Willingness to reflect on their experiences **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. -How to word questionnaires so as not to embarrass people **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively **Cultural development examples include:** -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide					

Links to careers and the world of work	Ideal preparation for university courses requiring a high level of mathematics. Links to many careers such as engineering, science, computer programming, project management, statistician, analyst, economics, architecture and graphic design. Transferable life skills include problem-solving, logical thinking, resilience, mathematical writing, working systematically, spatial reasoning, data justification and independent thinking.

YEAR 12 MATHS AND FURTHER MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

To best prepare students for A-levels in both maths and further maths, working at a fast pace to cover both courses. To give the strongest possible foundation for studying university courses with a high mathematical content. A-level maths will build upon and extend mathematical knowledge and skills from GCSE to A-level, studying pure maths, mechanics and statistics. A-level further maths includes additional pure maths, mechanics and decision maths. To understand mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for further study. To develop problem-solving skills, making links between different areas of maths. To apply mathematics in a variety of contexts and be aware of its relevance to the world of work and to society in general. To give students a strong skill set to best prepare them for the rigour of A-level exam questions.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	Pure maths and statistics	Pure maths, further pure maths and mechanics	Further pure maths, further mechanics and decision maths (and revision)	Further pure maths, further mechanics and decision maths	Further pure maths, pure maths and statistics (and mixed revision)	Pure maths and statistics
Core Knowledge/ Threshold Concept	Understand, reason and solve problems involving: **Pure maths:** Basic algebra. Polynomial and graphs. Coordinate geometry with lines and circles. Indices and surds. Transformations. Vectors in 2D. Trigonometry Binomial expansion. Introduction to calculus. Basic differentiation. **Statistics:** Data processing, presentation and interpretation. Probability.	Understand, reason and solve problems involving: **Pure maths:** Trigonometry. Differentiation techniques and their applications. Integration as the reverse of differentiation and application to areas. Exponentials and logarithms. **Further pure maths:** Complex numbers, including Argand diagrams. Sums and products of roots of polynomial equations.	Understand, reason and solve problems involving: **Further pure maths:** Matrices. 2x2 and 3x3 matrices. **Further mechanics:** Momentum and impulse. Work, energy and power. **Decision maths:** Algorithms and graph theory. Algorithms on graphs or networks. **Mixed Revision:** Revision and preparation for mock exams.	Understand, reason and solve problems involving: **Further pure maths:** Matrices and simultaneous equations. Proof by induction. Further vectors. **Further mechanics:** Conservation of mechanical energy. Power. Elastic collisions in one dimension. Restitution. Successive impacts. **Decision maths:** Critical path analysis. Linear programming.	Understand, reason and solve problems involving: **Further pure maths:** Volume of revolution. **Pure maths (start of "A2" course):** Trigonometry, including radians, arc length and sectors. Functions, including domain and range, inverse and composite functions. **Statistics (start of "A2" course):** Regression and correlation. **Mixed Revision:** Revision and	Understand, reason and solve problems involving: **Pure maths:** Modulus functions. Transformations. Differentiation including chain rule, product rule and quotient rule. Use of more complex functions. Trigonometry, including identities, addition and double-angle formulae. Formal proof including proof by contradiction. Algebraic fractions, including improper

	Statistical distributions. Binomial distribution. Sampling and hypothesis testing.	**Mechanics:** Introduction to modelling. Travel graphs. Motion under constant acceleration. Force diagrams. Newton's laws of motion. Problems with connected particles. Using calculus in mechanics.		**Mixed Revision:** Revision and preparation for mock exams.	preparation for summer exams.	fractions and partial fractions. **Statistics:** Hypothesis testing for zero correlation. Probability, including conditional probability and use of standard formulae and/or Venn diagrams. Normal distribution and hypothesis testing.
Why this learning now?	Basic skills required throughout pure maths. Building on GCSE knowledge. The statistics topics for Year 12 are all covered together as one coherent whole, and then revised throughout the rest of the year.	The rest of the AS maths syllabus (the first half of the A-level course) is taught in this term (the remaining pure and mechanics topics) so that the syllabus is complete by Christmas. Students can then be assessed on all of this in the mock exams, and it is kept fresh afterwards with revision lessons. A start is made on further pure maths, covering complex numbers first as there is minimal overlap between maths and further maths here.	Revision needed for mock exams. Continuing to study further pure maths. Starting the applied elements of further mechanics and decision maths. There is some dependency in mechanics and pure maths between further and A-level, so it wise to work in this order. Revision lessons and some homework tasks are used to maintain skills in A-level topics.	Completing the AS further syllabus (the first half of the further A-level course) in both mechanics and decision maths. Completing the majority of the further pure course. Revision lessons and some homework tasks are used to maintain skills in A-level topics.	Completing the AS further syllabus in further pure. Making a start on the A2 syllabus (2nd half of A-level course) and spending some time preparing thoroughly for the summer exams.	Completing the statistics syllabus for A-level maths as one coherent whole. This is then reviewed periodically throughout Year 13. Continuing with pure maths, completing topics that are used extensively in later work. For example trigonometry is important for calculus work later. Algebraic fractions are needed for binomial expansion and integration in the autumn term of Year 13.

Assessment Opportunities:	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.	January mock exams. Regular revision tasks. Feedback from marked homework tasks.	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.	Summer exams. Regular revision tasks. Feedback from marked homework tasks.	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.
Learning at Home	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.
Key Vocabulary	Polynomial Coefficient Binomial Roots Discriminant Tangent/normal Rationalising Principal value Calculus Discrete Regression Outlier Distribution Uniform Hypothesis Significance level Sampling	Logarithm Exponential Kinematics Modelling Displacement/velocity Resultant Conjugate	Impulse Momentum Energy Potential Determinant Invariant Algorithm Nodes Vertices Edges Arcs Cycle Spanning tree	Restitution Induction Constraints Slack and float	Domain and range Inverse Composite Correlation coefficient	Modulus Improper fraction Counter-example Exhaustion Contradiction Conditional Normal distribution

Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment, imagination and creativity in learning -Willingness to reflect on their experiences **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively **Cultural development examples include:** -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide
Links to careers and the world of work	Ideal preparation for numerous university courses requiring a high level of mathematics. Links to many careers such as engineering, science, computer programming, project management, statistician, analyst, economics, architecture and graphic design. Transferable life skills include problem-solving, logical thinking, resilience, mathematical writing, working systematically, spatial reasoning, data justification and independent thinking.

YEAR 13 MATHS AND FURTHER MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

To best prepare students for A-levels in both maths and further maths, working at a fast pace to cover both courses. To give the strongest possible foundation for studying university courses with a high mathematical content. A-level maths will build upon and extend mathematical knowledge and skills from GCSE to A-level, studying pure maths, mechanics and statistics. A-level further maths includes additional pure maths, mechanics and decision maths. To understand mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for further study. To develop problem-solving skills, making links between different areas of maths. To apply mathematics in a variety of contexts and be aware of its relevance to the world of work and to society in general. To give students a strong skill set to best prepare them for the rigour of A-level exam questions.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	Pure maths and further pure maths	Pure maths, mechanics and further pure maths.	Further pure maths, further mechanics and decision maths (and revision)	Further pure maths, further mechanics and decision maths (and revision)	Mixed revision and exam practice for both maths and further maths A-levels	
Core Knowledge/ **Threshold Concept**	Understand, reason and solve problems involving: **Pure maths:** Differentiation including implicit, inflections points and rates of change. Parametric equations. Integration techniques and applications. Sequences and series. Vectors in 3-D. **Further pure maths:** Series including method of differences and Maclaurin series. More complex numbers including exponential form, de	Understand, reason and solve problems involving: **Pure maths:** Binomial expansion with rational or negative indices. Numerical methods for solving equations. Vectors in 3-D. Differential equations, forming and solving, including modelling applications. **Mechanics:** Resolving forces, friction and inclined planes. Moments of forces, including applications	Understand, reason and solve problems involving: **Further pure maths:** Hyperbolic functions. 1st order differential equations. **Further mechanics:** Momentum and impulse in 2-D. Elasticity and use with conservation or energy. **Decision maths:** Graphs and networks. Travelling salesperson problems. **Mixed Revision:** Revision and preparation for mock exams. Regular	Understand, reason and solve problems involving: **Further pure maths:** 2nd order differential equations. **Further mechanics:** Elastic collisions in 2-D (between a sphere and a surface, or between two spheres). Use of scalar products. **Decision maths:** The simplex algorithm. Critical path analysis. **Mixed Revision:** Regular revision lessons on A-level maths.	Understand, reason and solve problems involving: **Mixed Revision:** Revision and preparation for summer exams.	

	Moivre's theorem and complex roots of unity.	to uniform or non-uniform beams. Use of constant acceleration formulae in 2-D problems. Projectile motion. Use of calculus in 2-D problems. **Further pure maths:** Polar coordinates. Further calculus.	revision lessons on A-level maths.			
Why this learning now?	In A-level maths, building on existing knowledge and skills. Most of these topics are continuations of work started in Year 12. Sequences and series for example requires use of logarithms and exponentials, as well as the concept of a limit. In further pure maths, the complex numbers work is a continuation of the work started in Year 12, but to a harder level, combining trigonometry, roots of polynomials and exponentials with complex numbers. Maclaurin series require use of the	Completing the A-level maths course by finishing the remaining pure and mechanics topics. Finishing this syllabus by Christmas means that students can then be assessed on all of this in the mock exams, and it is kept fresh afterwards with revision lessons. Completing the A-level in maths first also means that the remaining further topics are all accessible (that all prerequisite knowledge has been covered). In further pure maths, polar coordinates and further calculus require integration techniques	Revision needed for mock exams. In further pure maths, hyperbolic functions link with logs, exponentials, trigonometry and calculus, so provide opportunities to check on these again. 1st order differential equations link with integration techniques in both A-level maths and further maths. Starting the applied elements of further mechanics and decision maths at A2 level. There is some dependency in mechanics and pure maths between further	Completing the full A-level further maths syllabus. The topic of 2nd order differential equations draws on several other areas of the maths and further maths course, so it a sensible one to leave until last. Elasticity and elastic collisions build on earlier work on 1-D collisions. The simplex algorithm is sensible to leave until the end as it is possibly the most challenging element of the decision syllabus. Revision lessons and some homework tasks are used to maintain skills in A-level topics.	Full focus on exam preparation now that every topic has been taught. Using full A-level exam papers to improve exam technique and strengthen students' overview of the two complete A-level syllabuses. Familiarisation with common techniques and the pace required on exams.	

	differentiation topics covered at the end of Year 12.	which have been covered in Yr13 autumn term 1.	and A-level, so it wise to work in this order. Revision lessons and some homework tasks are used to maintain skills in A-level topics.			
Assessment Opportunities:	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.	Half-termly test. Regular revision tasks. Feedback from marked homework tasks.	January mock exams. Regular revision tasks, including use of past papers. Feedback from marked homework tasks.	Half-termly test. Regular revision tasks, including use of past papers. Feedback from marked homework tasks.	Revision tasks. Feedback from marked homework tasks. Review of completed exam papers.	
Learning at Home	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Exam-style questions are included in this. Revision materials are given ahead of assessments.	Homework is set after most lessons to consolidate and extend the work covered in class. Revision focused on exam papers, mark schemes and common techniques.	.
Key Vocabulary	Implicit Inflection Concave/convex Parametric equations Recurrence Limit Sequence/series Inspection	Iteration Validity Moments Resolving Uniform Improper integral Solution curves	Hyperbolic Elasticity Oblique Planarity Isomorphic	Harmonic motion Damped		

Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment, imagination and creativity in learning -Willingness to reflect on their experiences **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively **Cultural development examples include:** -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide
Links to careers and the world of work	Ideal preparation for numerous university courses requiring a high level of mathematics. Links to many careers such as engineering, science, computer programming, project management, statistician, analyst, economics, architecture and graphic design. Transferable life skills include problem-solving, logical thinking, resilience, mathematical writing, working systematically, spatial reasoning, data justification and independent thinking.