	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme/Big Idea	Exploring Mathematical Relationships: Developing Reasoning, Accuracy and Advanced Problem-Solving	Making Sense of the World Through Mathematical Reasoning: Analysing Data, Modelling Relationships and Justifying Conclusions	Exploring Mathematical Structures: Building Confidence Through Logic, Proof and Generalisation	Exploring Change and Relationships: Building Confidence in Mathematical Modelling and Interpretation	Consolidating Mathematical Understanding and Developing Examination Confidence Through Deliberate Practice	Consolidating Mathematical Understanding and Developing Examination Confidence Through Deliberate Practice
Content What are they learning? (including keywords)	<u>Unit 12:</u> **Similarity and congruence** Students will develop advanced geometric reasoning by using congruence, similarity and enlargement to justify solutions and construct formal mathematical proofs. They will explore relationships between length, area and volume scale factors, solve problems involving similar shapes and solids, and apply these concepts to complex real-world and mathematical situations. <u>Unit 13:</u> **More trigonometry** Students will extend their understanding of trigonometry by exploring graphs, transformations and exact values, and applying trigonometric rules to solve 2D and 3D	<u>Unit 14:</u> **Further statistics** Students will develop advanced statistical thinking by collecting, analysing and interpreting data responsibly. They will evaluate sampling methods, identify bias, and use cumulative frequency graphs, box plots and histograms to compare distributions, draw reliable conclusions and make informed decisions based on real-world data. <u>Unit 15:</u> **Equations and graphs** Students will develop advanced algebraic and graphical reasoning by exploring quadratic, cubic and linear functions, solving equations and inequalities, and interpreting points of intersection. They will use graphs to model and	<u>Unit 17:</u> **More algebra** Students will extend their algebraic reasoning by working with surds, algebraic fractions, functions and advanced formulae. They will simplify expressions, solve complex equations, use proof to justify mathematical relationships, and explore function notation and inverses, developing confidence in abstract thinking and sophisticated problem-solving. <u>Unit 18:</u> **Vectors and geometric proof** Students will develop advanced understanding of vectors by representing and combining movements mathematically, calculating vector lengths and resultants, and solving geometric	<u>Unit 19:</u> **Proportion and graphs** Students will develop advanced understanding of graphs, functions and proportional relationships. They will explore exponential growth and decay, graph transformations, gradients and areas under curves, and apply direct and inverse proportion to real-world contexts, strengthening analytical thinking, mathematical modelling and confidence in interpreting complex relationships.	<u>Revision</u>: **Class specific revision and exam practice based on previous examinations and QLA documents.** Students consolidate and extend their understanding of the content through structured practice of past examination questions under both timed and untimed conditions. They refine methods, improve accuracy and application, and develop effective examination techniques through the analysis of mark schemes, examiner reports and common misconceptions. Through regular exposure to examination-style questions, students also develop confidence in managing their time effectively, improving the speed, efficiency and accuracy with which they	<u>Revision</u>: **Class specific revision and exam practice based on previous examinations and QLA documents.** Activity will continue as in Term 5 until exams are complete.

	problems. They will investigate coordinates, bearings and spatial relationships, developing advanced reasoning skills and confidence in tackling complex geometric challenges. **Key vocabulary list in Y11 Higher Appendix 1**	solve real-life problems, develop confidence with mathematical notation, and apply iterative methods to investigate numerical solutions. <u>Unit 16:</u> **Circle theorems** Students will develop deeper geometric reasoning through the study of circle theorems, constructions and coordinate geometry. They will apply mathematical proofs to solve complex angle problems, investigate tangents and chords, construct loci and circles, and build confidence in using logical reasoning to justify and communicate mathematical solutions. **Key vocabulary list in Y11 Higher Appendix 1**	problems involving ratio. They will use vector methods to justify proofs, identify parallel lines and collinear points, strengthening logical reasoning, spatial awareness and mathematical communication skills. **Key vocabulary list in Y11 Higher Appendix 1**	**Key vocabulary list in Y11 Higher Appendix 1**	select and apply appropriate methods under examination conditions.	
Skills How are they learning it?	Apply mathematical thinking to recognise structure and relationships, including scale factors, trigonometric relationships, transformations, and spatial connections in 2D and 3D contexts. Use mathematical reasoning to justify solutions, compare shapes and solids, and construct formal	Apply mathematical thinking to recognise structure and relationships within functions, graphs, circle geometry, and statistical distributions, making connections across different areas of mathematics Use mathematical reasoning to analyse data, justify algebraic and geometric solutions, evaluate conclusions,	Apply mathematical thinking to recognise structure and connections within algebra and geometry, including inverse functions, vector relationships, and general mathematical proofs. Use mathematical reasoning to justify algebraic processes, construct formal proofs, and explain relationships involving functions,	Apply mathematical thinking to recognise structure and connections between functions, graphs, rates of change, and mathematical models. Use mathematical reasoning to explain relationships between variables, justify graphical interpretations, and analyse direct and inverse proportion in a range of contexts.	Apply mathematical knowledge fluently and accurately across a wide range of examination-style questions. Develop effective strategies for selecting, applying and communicating appropriate mathematical methods. Use examiner feedback, mark schemes and model solutions to	

	mathematical arguments and proofs. Use representations such as diagrams, graphs, coordinates, and geometric models to visualise, analyse, and communicate mathematical ideas clearly. Strengthen problem-solving skills by applying similarity, congruence, and advanced trigonometry to unfamiliar situations, real-world applications, and multi-step geometric challenges.	and construct clear mathematical proofs. Use a range of representations such as cumulative frequency graphs, box plots, histograms, algebraic notation, coordinate diagrams, and geometric constructions to communicate ideas effectively.	vectors, ratio, and geometry. Use representations such as algebraic notation, function notation, vector diagrams, and geometric models to visualise and communicate mathematical ideas clearly. Strengthen problem-solving skills by applying advanced algebraic and vector methods to unfamiliar problems, developing logical reasoning, abstract thinking, and mathematical communication.	Use representations such as graphs, equations, tables, and coordinate diagrams to visualise, analyse, and communicate mathematical ideas clearly.	improve accuracy and maximise marks. Build confidence and resilience through timed practice and reflection on performance. Evaluate and refine examination technique to improve efficiency, precision and problem-solving under pressure.	
Key Questions	How do congruence, similarity, and enlargement help us compare shapes, and what can they tell us about the relationships between lengths, areas, and volumes? Why is understanding scale factors important when solving problems involving similar shapes and solids, and how can these ideas be used to justify solutions and construct mathematical proofs? How do trigonometric graphs, transformations, and exact values help us understand and solve	How do sampling methods, cumulative frequency graphs, box plots, and histograms help us analyse and compare data, and what can they reveal about the distribution of a dataset? Why is it important to identify bias and evaluate the reliability of data, and how does this support drawing accurate conclusions and making informed decisions in real-world situations? How do quadratic, cubic, and linear graphs help us represent and solve	How do surds, algebraic fractions, functions, and advanced formulae help us represent and solve more complex mathematical problems, and what connections can be made between these different algebraic concepts? Why is it important to use proof, function notation, and inverse functions when working with advanced algebra, and how do these skills develop abstract thinking and sophisticated problem-solving? How can vectors be used to represent and	How do graphs and functions help us understand proportional relationships, and what do gradients and areas under curves reveal about changing quantities? Why is it important to understand direct and inverse proportion, exponential growth and decay, and graph transformations, and how can these concepts be applied to model and interpret real-world situations?	What makes a mathematical solution successful, why do examiners award marks in particular ways, and how can this improve performance? How can past papers, mark schemes and examiner reports help identify strengths and areas for development? Why is examination technique important, and how can accuracy, communication and time management be improved?	

	geometric problems, and **what** patterns can be observed from them? **Why** is it important to use trigonometric rules when solving 2D and 3D problems involving coordinates, bearings, and spatial relationships, and **how** do these skills support mathematical reasoning?	equations and inequalities, and **what** can points of intersection tell us about their solutions? **Why** is it useful to model real-life situations using graphs and iterative methods, and **how** do these approaches help us investigate and find numerical solutions to complex problems? **How** do circle theorems help us solve complex angle problems, and **what** relationships can be identified between angles, chords, tangents, and other features of a circle? **Why** is it important to use logical reasoning and mathematical proof when applying circle theorems, constructions, and coordinate geometry, and **how** do these approaches help justify solutions accurately?	combine movements mathematically, and **what** do vector lengths and resultants tell us when solving geometric problems? **Why** is vector reasoning useful for proving geometric relationships such as parallel lines and collinear points, and **how** does it help justify mathematical solutions logically and accurately?			
Assessment (specific assessed piece(s); milestone(s))	Unit 12 Learning Review. Unit 13 Learning Review. October Papers. QLA sheets provided from this.	Unit 14 Learning Review. Unit 15 Learning Review. Possibly Unit 16 Learning Review. December Examinations. QLA sheets provided from this.	Unit 17 Learning Review. Unit 18 Learning Review.	Unit 19 Learning Review. March Examinations. QLA sheets provided from this.	Final GCSE Examinations.	Final GCSE Examinations.