Year 9 Path A	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme/Big Idea	Developing Proportional Reasoning and Geometric Understanding for Confident Problem Solving	Developing Fluency in Algebraic Thinking and Numerical Methods for Confident Problem Solving	Developing Graphical Representation and Geometric Fluency for Analytical Problem Solving	Developing Mathematical Structure and Reasoning through Number, Probability and Algebra	Developing Analytical Skills through Geometrical construction and Statistical Interpretation	Developing Precision and Spatial Reasoning through Transformations and Geometric Constructions
Content What are they learning? (including keywords)	**Unit 1** Students develop understanding of proportional relationships using fractions, percentages and ratio. They calculate fractions and percentages of amounts, simplify ratios and use them to solve problems. Students explore direct proportion, building confidence in recognising and applying multiplicative relationships in real-life contexts. **Unit 2** Students deepen their understanding of angle relationships and applying angle rules within triangles,	**Unit 3** Students build on prior knowledge to solve linear equations, including one-step, two-step and three-step equations. They develop confidence in forming equations from given situations and solving them, strengthening their ability to represent and solve problems algebraically. **Unit 4** Students develop accuracy in key numerical skills, including rounding and applying the correct order of operations. They build confidence in	**Unit 6** Students develop their understanding of coordinates and the Cartesian plane, including drawing and recognising horizontal and vertical lines. They learn to plot points accurately and draw graphs of linear functions, building confidence in representing relationships visually. **Unit 7** Students develop fluency in calculating the area of rectangles, triangles, parallelograms and trapeziums, including compound shapes. They extend their understanding to	**Unit 8** Students develop their understanding of sequences by generating terms from position-to-term rules and identifying patterns. They learn to find the nth term for linear sequences and describe sequences algebraically, building connections between number patterns and algebraic representation. **Unit 9** Students explore probability through equally likely outcomes, using probability scales to represent likelihood. They construct and use sample spaces and	**Unit 11** Students develop their understanding of bearings, scale drawings and geometric constructions. They learn to interpret and use scales, including ratios as scales for maps and drawings, and apply these skills to solve practical problems involving distance, direction and representation. **Unit 12** Students develop their ability to represent and interpret data using stem and leaf diagrams and scatter graphs. They construct and analyse diagrams, calculate averages and	**Unit 13** Students develop their understanding of geometric transformations, including rotations, reflections, translations and enlargements. They learn to describe and perform transformations accurately, strengthening their spatial reasoning and beginning to develop an understanding of congruence and similarity. **Unit 14** Students develop accuracy and confidence in geometric construction using a ruler, protractor and

	quadrilaterals, parallel lines and polygons. They develop understanding , accuracy and fluency with Pythagoras' Theorem and begin to apply it to real-life problems. Students develop their understanding of basic angle rules and apply these within triangles and quadrilaterals. They explore special quadrilaterals and their angle properties, building reasoning skills and confidence in solving geometrical problems accurately. **Key vocabulary listed in Appendix 1**	performing calculations systematically, ensuring reliable and precise answers across a range of contexts. **<u>Unit 5</u>** Students strengthen their understanding of fractions by adding and subtracting fractions, converting between mixed numbers and improper fractions, and calculating with mixed numbers. This builds fluency and confidence in working with fractions in real-life situations. **Key vocabulary listed in Appendix 2**	volume of cubes and cuboids and are introduced to density, applying these ideas in both mathematical and real-life contexts. **Key vocabulary listed in Appendix 3**	develop understanding of relative frequency, comparing theoretical probabilities with experimental results in a range of contexts. **<u>Unit 10</u>** Students develop algebraic fluency by collecting like terms and expanding single brackets. They learn to create expressions and equations from given situations and substitute values into formulae, strengthening their ability to represent and solve problems mathematically. **Key vocabulary listed in Appendix 4**	range from stem and leaf data, identify correlation, and use lines of best fit to interpret and predict relationships within data sets. **Key vocabulary in Appendix 5**	compasses. They learn to construct triangles from given lengths and angles, applying their understanding of geometric properties and notation. **Key vocabulary in Appendix 6**
Skills How are they learning it?	Apply mathematical thinking to recognise proportional relationships using fractions, percentages and ratio. Use reasoning to solve problems involving direct proportion and interpret multiplicative relationships. Use accurate and efficient calculation strategies when	Apply algebraic thinking to form and solve equations from a range of contexts. Use mathematical reasoning to explain steps in solving equations and justify methods. Apply accurate calculation skills, including rounding and correct order of operations.	Apply mathematical thinking to represent relationships using coordinates and linear graphs. Use reasoning to interpret horizontal and vertical lines and understand their properties. Apply geometric reasoning to calculate area of shapes and solve problems	Apply mathematical thinking to recognise patterns in sequences and form general rules using algebra. Use reasoning to analyse outcomes, construct sample spaces and interpret relative frequency. Apply algebraic thinking to simplify expressions and represent real-life	Apply spatial reasoning to interpret and construct scale drawings, bearings and geometrical constructions. Use proportional reasoning to work accurately with scales, maps and diagrams. Apply statistical thinking to organise, represent and analyse data using stem and	Apply spatial reasoning to perform and describe transformations accurately, including combined transformations. Represent and communicate geometric ideas clearly using correct notation, diagrams and descriptions.

	working with fractions, percentages and ratio. Apply geometric reasoning to identify and use angle rules in triangles and quadrilaterals.	Use efficient strategies to calculate with fractions, including mixed and improper forms.	involving compound figures. Use accurate calculation methods when working with volume and introductory density concepts. Represent and communicate mathematical ideas clearly using graphs, diagrams and precise notation.	situations mathematically. Use reasoning to interpret and construct expressions and equations from contextual problems. Represent and communicate mathematical ideas clearly using diagrams, tables and algebraic notation.	leaf diagrams and scatter graphs. Use mathematical reasoning to identify patterns, interpret correlation and make predictions using lines of best fit. Represent and communicate mathematical ideas clearly using diagrams, graphs, scales and precise mathematical language.	Apply precision when using mathematical instruments to construct accurate diagrams.
Key Questions	**What** is proportional reasoning, **why** is it important, and **how** can we use fractions, percentages and ratios to model and solve real-life problems effectively? **What** are the key angle rules in geometry, **why** do they always hold true, and **how** can we use them to solve problems? **What** is Pythagoras' Theorem and **how** can we decide when and how to use it to solve problems?	**What** is an equation, **why** do we use it to represent relationships, and **how** can we solve it? **How** can we use algebraic methods to form equations from real situations, and **why** does this help us model problems effectively? **How** does the order of operations affect calculations and **what** is the correct order? **What** are the different forms of fractions, **why** do we convert between them, and	**What** do coordinates represent, **why** are they useful, and **how** can we use them to draw and interpret graphs? **How** can we represent relationships using graphs, and **why** is this useful for understanding patterns and connections? **What** methods can we use to calculate the area of different shapes, and **how** do these methods work? **Why** is it useful to break compound	**What** patterns exist in sequences, **why** is the nth term useful, and **how** can we generate and describe sequences? **What** is probability, **why** do outcomes vary, and **how** can we represent and calculate likelihood using different models? **What** is relative frequency, **why** is it different from probability and **how** do we calculate it? **What** are algebraic expressions and formulae, **why** can	**What** are bearings and scale drawings, **why** are they useful, and **how** can we use them to represent and solve real-world problems? **How** can ratios be used as scales in maps and drawings? **How** can we represent and analyse data using stem and leaf diagrams and **what** is it about the representation that gives us detail and overview at the same time? **What** do measures of average and spread	**What** are transformations, **why** do they preserve or change properties of shapes, and **how** can we describe them accurately? **What** information is needed to construct a triangle, **why** must it be precise, and **how** can we use mathematical instruments accurately? **How** can we construct triangles from different combinations of lengths and angles, and **why** do these methods work?

		how can we calculate with them effectively and accurately?	shapes into simpler parts, and **how** does this help us calculate their area accurately? **What** is volume and **how** can we calculate it accurately for different shapes? **What** is density and its compound unit, and **how** can it be used in real life?	they be represented in different but equivalent forms, and **how** can we manipulate and move between these representations to solve problems efficiently?	tell us about a data set, **why** is this important, and **how** can we use them to interpret and compare distributions? **How** can we represent and analyse data using scatter graphs and **how** certain can we be about any predictions we make.	
Assessment (specific assessed piece(s); milestone(s))	Unit 1 Learning Review Unit 2 Learning Review Assessment 1 covering unit 1. QLA sheets provided from this.	Unit 3 Learning Review Unit 4 Learning Review Unit 5 Learning Review Assessment 2 covering Units 2 and 3. Assessment 3 covering Units 4 and 5. QLA sheets provided from these,	Unit 6 Learning Review Unit 7 Learning Review Assessment 4 covering Units 6 and 7, QLA sheets provided from this.	Unit 8 Learning Review Unit 9 Learning Review Unit 10 Learning Review	Unit 11 Learning Review Unit 12 Learning Review Assessment 5 covering Units 8, 9 and 10. QLA sheets from this	Summer Term assessments (Non-calculator and Calculator papers). QLA sheets provided from these. Unit 13 Learning Review Unit 14 Learning Review