



Subject	Year	Term
Mathematics (Higher)	10	3
Topic		
Angles, Graphs, Vectors, Number, Trigonometry and Simultaneous Equations		
Content (Intent)		
Prior Learning (Topic): Types of charts, Coordinates, Squares and cubes, Triangle properties		
- Angles - Graphs and diagrams - Vectors - Factors, powers and surds - Pythagoras' Theorem and Trigonometry - Simultaneous Equations		
Future Learning (Topic) Problem solving		
What Knowledge and Skills will be taught (Implementation)		How will your understanding be assessed & recorded (Impact)
- To recognise, and calculate angle facts in shapes and parallel lines - To solve, problems involving polygons and algebraic expressions with angles - To prove, key geometric facts using formal reasoning - To draw and interpret advanced statistical diagrams including histograms, cumulative frequency graphs, and box plots. - To use these diagrams to compare distributions and interpret statistical information. - To apply and link diagrammatic representations in real-world and mathematical contexts. - To describe and perform operations with vectors including scalar multiplication, addition, and subtraction. - To solve problems using vector journeys and relationships within geometric shapes. - To deduce unknown vectors using properties of parallelism and vector notation. - To manipulate and simplify powers, roots, and surds using the rules of indices. - To perform operations with surds including rationalising the denominator and expanding brackets. - To reason with surds in problem-solving contexts. - To calculate unknown lengths and angles using Pythagoras' Theorem and trigonometric ratios. - To solve problems involving non-right-angled triangles using sine and cosine rules. - To justify methods and solutions using exact values and 3D applications - To solve simultaneous equations algebraically by elimination and substitution with both linear and non-linear equations - To solve simultaneous equations graphically		<u>Ongoing Assessment</u> - Q&A in plenary - Mini-whiteboards - Self and Peer assessment - One online homework per week - End of unit tests <u>Formal Assessment</u> Formative assessment in June
How can parents help at home?		
Help to learn 'need-to-know' formulas Encourage use of SparxMaths [or MathsGenie] Review previously taught topics regularly		
Helpful further reading/discussion (including Reading and Vocabulary Lists)		
Reading Direct to the following websites; Sparkmaths.com www.mathsgenie.co.uk	Vocabulary Lists Alternate Corresponding Co-interior Transversal Proof Time-series Cumulative	Histogram Boxplot Median Quartiles Vector Magnitude Direction Scalar Irrational Surd Indices Hypotenuse Opposite Adjacent Sine Cosine