Mathematics	**Intent: To consolidate and further develop core concepts of number, algebra, geometry, ratio and proportion, statistics and probability developed in KS3. Through interleaving and spaced practice students will increase their fluency and confidence in key mathematical processes. Students will begin to make connections between more advanced mathematical concepts in order to solve a variety of problems.**		
Year 11H	**Algebra**	**Geometry**	**Statistics & Probability**
Knowledge (facts, information, concepts and key terminology)	Solve linear and quadratic equations algebraically and graphically, quadratic formula, completing the square, turning points, straight line graphs, equation of a circle, further graphs.	Definition of vectors, pictorial representations, adding and subtracting vectors, multiples of vectors, parallel and collinear vectors, sine rule, cosine rule, area of a triangle.	Averages and spread, averages from individual and grouped data, outliers, quartiles, IQR, histograms, cumulative frequency and scatter graphs.
Understanding (ability to connect and synthesise knowledge within a context)	The advantages and disadvantages of each method when solving quadratic equations. The nature of the graphs and how the equations and key information can be derived. The differences between common types of graphs and how transformation affect them.	A vector is a different form of representing information. The similarities and differences between vector and coordinate geometry. Trigonometry can be extended beyond right-angled triangles to all types of triangles. Using circles to prove multiple values.	The differences between measures of location and measures of spread. How changes to these values affect summaries of the data. Key features of more complex statistical diagrams and how further information can be calculated from them.
Skills (successful application of knowledge and understanding to a specific task)	Apply appropriate procedures to a variety of questions in order to answer in the most efficient way. Determine maxima and minima from equations and graphs as well as tracking them through transformations.	Convert between algebraic and geometrical representations of vectors and choose the most efficient method based upon student preferences. Apply the correct trigonometric rule depending on the context and consider the validity of each answer.	Identify when appropriate averages and ranges should be used based upon context. Compare two or more sets of data using relevant statistics. Evaluate the use of statistical diagrams, notably reasons for using a particular one as well as limitations.
Formal Assessments (those done by all/vast majority of the cohort)	Termly cumulative assessments covering content from start of GCSE course. Topic Assessments after each topic has been delivered.		
By the end of the year students on course for at least a grade 5 will… be proficient in using procedures to answer standard questions across all areas of mathematics. Apply concepts to unfamiliar problems using problem solving skills developed over the year.			

The timings and order of delivery shown are approximate, these may change on a class-by-class basis

Term 1

Overview	Hegarty Reference
Linear and Quadratic Equations and their Graphs	217
	230, 231, 232, 233
	260
Further Equations and Graphs	233
	241, 242
	246
	260
	235, 236, 237, 238, 239
	255, 256, 257
Statistical Measures	404-413, 419, 420, 421
	414-417
	418
	411, 412
Algebra Recap and Review	206-213
	874-898
	217
Equation of a Circle	215, 216
	778, 779

Term 2

Overview	Hegarty Reference
Vectors	622, 623, 624, 627
	625, 626
	628-636
Sine and Cosine Rules	520-525
	526-530
	516-519
	531, 532, 533
Further Sketching Graphs	257, 802, 803, 298, 299, 300, 301
	303-306
Transforming Functions	307, 308, 311, 312
Statistics Recap and Review	422-429
	411, 412, 434-440
	453. 454
Geometry and Measures Recap and Review	637-658
	567-591
	534-547

Term 3

Overview
Remaining lesson time will be spent on revision and exam preparation