Year 10 GCSE Mathematics Higher tier Curriculum						
Subject Intent: For every learner to be confident and fluent mathematicians who enjoy and succeed in mathematics, leaving school with a solid foundation of mathematical skills, knowledge and understanding, primed for their chosen fields in the 21st century.						
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Big idea/Theme	**Investigating properties of shapes** • Investigate similar triangles • Explore trigonometry in right-angled triangles • Set up and solve trigonometric equations • Use trigonometry to solve practical problems	**Mathematical movement 1** • Explore enlargement of 2D shapes • Investigate the transformation of 2D shapes	**Patterns** • Explore quadratic sequences • Investigate geometric progressions	**Conjecturing** • Investigate geometric patterns using circles • Explore circle theorems • Make and prove conjectures	**Exploring fractions, decimals and percentages** • Explore the links between recurring decimals and fractions • Solve problems involving repeated percentage change • Solve problems involving exponential growth and decay	**Analysing statistics** • Construct and interpret cumulative frequency graphs • Construct and interpret box plots • Analyse distributions of data sets
Big Idea/Theme	**Calculating** • Estimate with powers and roots • Calculate with powers and roots • Explore the impact of rounding	**Algebra: manipulation** • Manipulate algebraic fractions • Manipulate algebraic expressions	**Solving equations and inequalities II** • Understand and use set notation • Solve inequalities • Represent inequalities on a graph	**Algebra: visualising I** • Explore exponential graphs • Create and use graphs of non-standard functions	**Solving equations and inequalities III** • Solve quadratic equations • Use graphs to solve equations	**Algebra: visualising II** • Investigate features of straight line graphs • Know and use the equation of a circle with

				• Investigate gradients of graphs • Find and interpret areas under graphs • Investigate features of quadratic graphs		centre at the origin • Solve problems involving the equation of a circle
Big Idea/Theme	**Solving equations and inequalities 1** • Find approximate solutions to complex equations • Solve simultaneous equations • Solve problems involving simultaneous equations	**Proportional reasoning** • Explore differences between direct and inverse proportion • Investigate ways of representing proportion in situation • Solve problems involving proportion	**Calculating space** • Calculate surface areas of solids • Calculate volumes of solids • Solve problems involving enlargement and 3D shapes		**Understanding risk** • Understand and use the product rule for counting • Use Venn diagrams to represent probability situations • Use two-way tables to represent probability situations • Solve probability problems involving combined events	**Mathematical movement II** • Explore the concept of a vector • Solve problems involving vectors