Year 10 – MATHEMATICS Programme of Study

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Algebra • Simplifying algebraic expressions • Expanding brackets and factorising • Completing the square (H) • Algebraic fractions (H) **Pythagoras and Trigonometry** • Apply Pythagoras in range of contexts • Calculate side lengths and angles in right angles triangles using trigonometry • Sine and Cosine rule (H) • Sine rule for area (H)	**Solving Equations** • Linear equations • Quadratic equations (H) • Simultaneous Equations • Iteration to estimate solutions (H) • Linear and quadratic equations **Transformations** • Rotation, reflection, enlargement • Translations • Describing transformations • Invariant points (H) **Milestone Assessment: End of term calculator**	**Perimeter, Area & Volume** • Sector area • Arc length and perimeter of a sector • Area of a segment (higher only) • Volume and surface area of prisms and non prisms **Angles** • Recap and consolidation of KS3 content (F) • Circle Theorems (H) **Inequalities** • Solve and represent linear inequalities • Solve quadratic inequalities algebraically and graphically (H)	**Similarity and Congruence** • Criteria for congruent triangles • Geometric arguments and proof (H) • Length, area and volume scale factors (H) **Ratio and Proportion** • Recap and consolidation of KS3 content • Ratio notation for map scales • Unit conversion • Scale drawing and bearings • Practical examples of inverse proportion	Preparation for exams: **Milestone Assessment: GCSE papers** **Paper 1: 90 minutes (non-calculator)** **Paper 2: 90 minutes (calculator)** **After the exams:** • Assessment feedback • Responsive teaching (revisit weaker topics) **Sequences** • Square, cube, triangular number sequences • Linear sequences • Fibonacci sequences • Geometric sequences • Quadratic sequences (H)	**Probability** • Recap and consolidation of KS3 content (foundation only) • Solve problems using algebraic probabilities (higher only) • Product rule (higher only) • Conditional probability using venn diagrams (higher only) **Milestone Assessment: End of term non-calculator**