Year 10- Autumn 1

Block 1 – Congruence, Similarity and Enlargement	Block 2 – Trigonometry
Enlarge a shape by a positive integer scale factor (R) Enlarge a shape by a fractional scale factor (R) Enlarge a shape by a negative scale factor (H) Identify similar shapes Work out missing sides and angles in a given pair of similar shapes Use parallel line rules to work out missing angles (R) Establish a pair of triangles are similar Explore areas of similar shapes (1) (H) Explore areas of similar shapes (2) (H) Explore volumes of similar shapes (H) Understand the difference between congruence and similarity Understand and use conditions for congruent triangles Prove a pair of triangles are congruent(H)	Explore ratio in similar right-angled triangles Work fluently with the hypotenuse, opposite and adjacent sides Use the tangent ratio to find missing sided lengths Use the sine and cosine ratio to find missing side lengths Use sine, cosine and tangent to find missing side lengths Use sine, cosine and tangent to find missing angles Calculate sides in right angled triangles using pythagoras' theorem Select the appropriate method to solve right angled triangle problems Work with key angles in right angled triangles Use trigonometry in 3-D shapes Use the formula 1-2absinC to find the area of a triangle (H) Understand and use the sine rule to find missing lengths (H) Understand and use the sine rule to find missing angles (H) Understand and use the cosine rule to find missing lengths (H) Understand and use the cosine rule to find missing angles (H) Choosing and using the sine and cosine rules (H)

Year 10- Autumn 2

Block 3 – Representing Solutions of Equations and Inequalities	Block 4 – Simultaneous Equations
Understand the meaning of a solution Form and solve one step and two step equations Form and solve one step and two step inequalities Show solutions to inequalities on a number line Interpret representations on number lines as inequalities Represent solutions to inequalities using set notation Draw straight line graphs Find solutions to equations using straight line graphs Represent solutions to single inequalities on a graph Represent solutions to multiple inequalities on a graph Form and solve equations with unknowns on both sides Form and solve inequalities with unknowns on both sides Form and solve more complex equations and inequalities Solve quadratic equations by factorisation Solve quadratic inequalities in one variable	Understand that equations can have more than one solution Determine whether a given (x, y) is a solution to a pair of linear simultaneous equations Solve a pair of simultaneous linear equations by substituting a known variable Solve a pair of simultaneous linear equations by substituting an expression Solve a pair of linear simultaneous equations using graphs Solve a pair of linear simultaneous equations by subtracting equations Solve a pair of linear simultaneous equations by adding equations Use a given equation to derive related facts Solve a pair of linear simultaneous equations by adjusting one equation Solve a pair of linear simultaneous equations by adjusting both equations Form a pair of linear simultaneous equations from given information Form and solve a pair of linear simultaneous equations from given information Determine whether a given (x, y) is a solution to both a linear and quadratic equation Solve a pair of simultaneous equations one linear one quadratic using graphs Solve a pair of simultaneous equations (one linear, one quadratic) algebraically Solve a pair of simultaneous equations involving a third unknown

Year 10- Spring 1

Block 1 – Angles and Bearings	Block 2 – Working with Circles	Block 3 – Vectors
Use cardinal directions and related angles Draw and interpret scale diagrams Understand and represent bearings Measure and read bearings Make scale drawings using bearings Calculate bearings using angle rules Solve bearings problems using Pythagoras and trigonometry Solve bearings problems using the sine and cosine rules	Recognise and label parts of a circle Calculate fractional parts of a circle Calculate the length of an arc Calculate the area of a sector Circle theorem - angles at the centre and circumference Circle theorem - angles in a semi-circle Circle theorem - angles in the same segment (H) Circle theorem - angles in a cyclic quadrilateral Understand and use the volume of cylinder/cone Understand and use the volume of a sphere Understand and use the surface area of a sphere Understand and use surface area of cylinder/cone Solve area and volume problems involving similar shapes	Understand and represent vectors Read and use vector notation Draw and understand vectors multiplied by a scalar Draw and understand addition of vectors Draw and understand addition/subtraction of vectors Explore vector journeys in shapes Explore quadrilaterals using vectors Understand parallel vectors Explore collinear points using vectors Use vectors to construct geometric proofs and arguments

Year 10- Spring 2

Block 4 – Ratio and Fractions	Block 5 – Percentages and Interest	Block 6 - Probability
Compare quantities using ratio Link ratios and fractions Share in a ratio given total or part Use ratios and fractions to make comparisons Link ratios and graphs Solve problems with currency conversion Link ratio and scales Use and interpret ratios in the form of 1:n and n:1 Solve best buy problems Combine a set of ratios Link ratio and algebra Ratio in area problems Ratio in volume problems Mixed ratio problems	Convert and compare fractions, decimals and percentages (R) Percentages of amounts with/without calculator (R) Increase and decrease by a given percentage (R) Express one number as percentage of another (R) Calculate simple and compound interest Repeated percentage change Find the original value after a percentage change Solve problems involving growth and decay Understand iterative processes (H) Solve problems involving percentages, ratios and fractions	Add subtract and multiply fractions (R) Find probabilities using equally likely outcomes (R) Use the property that probabilities sum to one (R) Use experimental data to estimate probabilities Find probabilities from tables Venn diagrams and frequency trees Construct and interpret sample spaces for more than one event (R) Calculate probability with independent events Use tree diagrams for independent events Construct and interpret conditional probabilities - tree diagrams (H) Construct and interpret conditional probabilities from Venn diagrams and two-way tables (H)

Year 10- Summer 1

Block 1 – Collecting, Representing and Interpreting Data	Block 2 – Non-calculator Methods
Understand populations and samples Construct a stratified sample Primary and secondary data Construct and interpret frequency tables and frequency polygons Construct and interpret two-way tables (R) Construct and interpret line and bar charts including composite bar charts Construct and interpret pie charts (R) Criticise charts and graphs Construct histograms (H) Interpret histograms (H) Find and interpret averages from a list (R) Find and interpret averages from a table (R) Construct and interpret time series graphs (R) Construct and interpret stem and leaf diagrams Construct and interpret cumulative frequency diagrams (H) Use cumulative frequency diagrams to find measures (H) Construct and interpret box plots (H) Compare distributions using charts and measures Compare distributions using complex charts and measures (H) Construct and interpret scatter graphs (R) Draw and use line of best fit Understand extrapolation	Mental written methods of integer decimal addition and subtraction (R) Mental written methods of integer decimal multiplication and division The four rules of fraction arithmetic (R) Exact answers Rational and irrational numbers (H) Understand and use surds (H) Calculate with surds (H) Rounding to decimal places and significant figures (R) Estimating answers to calculations Use and understand limits of accuracy Upper and lower bounds (H) Use number sense Solve financial maths problems Break down and solve multi-step problems

Year 10- Summer 2

Block 3 – Types of Number and Sequences	Block 4 – Indices and Roots	Block 5 – Manipulating Expressions
Understand the difference between factors and multiples (R) Understand primes and express a number as a product of its prime factors (R) Find the HCF and LCM of a set of numbers (R) Describe/continue arithmetic/geometric sequences Explore other sequences Describe and continue sequences involving surds (H) Find the rule for the nth term of a linear sequence (R) Find nth term rule of a quadratic sequence (H)	Square and cube numbers (R) Calculate with higher powers and roots Powers of ten and standard form (R) The addition and subtraction rules for indices (R) Understand/use power of zero and negative indices Work with powers of powers Understand and use fractional indices Calculate with numbers in standard form	Simplify algebraic expressions (R) Use identities Add and subtract simple algebraic fractions (H) Add and subtract complex algebraic fractions (H) Multiply and divide simple algebraic fractions (H) Multiply and divide complex algebraic fractions (H) Form and solve equations/inequalities with fractions Solve equations with algebraic fractions (H) Represent numbers algebraically Algebraic arguments and proof