

Year 7

Autumn 1 Solve word problems (add and subtract)	Autumn 2 Explain and investigate (multiply and divide)	Spring 1 Geometry	Spring 2 Fractions	Summer 1 Applications of algebra	Summer 2 Percentages and statistics
All will have access to this specific Key Stage 3 content:					
<ul style="list-style-type: none"> Place value (including decimals) Add and subtract (including decimals) Estimation Perimeter Word problems 	<ul style="list-style-type: none"> Factors, HCF, multiples, LCM Multiply and divide (including decimals) Area of rectangle and triangle Calculate the mean 	<ul style="list-style-type: none"> Draw, measure and name acute and obtuse angles Find unknown angles (straight lines, at a point, vertically opposite) Properties of triangles and quadrilaterals 	<ul style="list-style-type: none"> Equivalent fractions Compare and order fractions and decimals Change mixed numbers to improper fractions and vice versa Fraction of a quantity Multiply and divide fractions 	<ul style="list-style-type: none"> Order of operations Substitution Simplify algebraic expressions Solve word problems with expressions Sequences (term-to-term, not nth term) 	<ul style="list-style-type: none"> Construct and interpret statistical diagrams including pie charts Convert between percentages, vulgar fractions and decimals Percentage of a quantity Find the whole, given the part and the percentage
As well as looking at the termly projects, highest attaining students may be stretched through depth by consideration of the following:					
<ul style="list-style-type: none"> Different counting systems or bases Generalisation Upper and lower bounds 	<ul style="list-style-type: none"> Shikaku puzzles Different counting systems or bases Alternative methods of multiplication Generalisation 	<ul style="list-style-type: none"> Tessellating triangles and quadrilaterals Tangram investigations Rigid shapes 	<ul style="list-style-type: none"> Terminating and recurring decimals Fractions of tangrams Shape block challenges 	<ul style="list-style-type: none"> Four fours Patterns and generalising Algebraic mean questions 	<ul style="list-style-type: none"> Comparing and converting between representations Applications of percentages

Year 8

Autumn 1 Number	Autumn 2 Algebraic expressions	Spring 1 2-D geometry	Spring 2 Proportional reasoning	Summer 1 3-D geometry	Summer 2 Statistics
All will have access to this specific Key Stage 3 content:					
<ul style="list-style-type: none"> Primes and indices Prime factorisation to find LCM, HCF, squares, cubes 	<ul style="list-style-type: none"> Negative numbers and inequality statements Formulate and 	<ul style="list-style-type: none"> Draw accurate triangles and quadrilaterals (ruler, protractor, 	<ul style="list-style-type: none"> Convert between percentages, vulgar fractions and decimals 	<ul style="list-style-type: none"> Rounding, significant figures and estimation Circumference and 	<ul style="list-style-type: none"> Collect and organise data Interpret and compare statistical

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<ul style="list-style-type: none"> Venn diagrams Enumerating sets Add and subtract fractions 	<ul style="list-style-type: none"> evaluate expressions Linear equations Expressions and equations from real-world situations Linear sequences: nth term 	<ul style="list-style-type: none"> compasses) Find unknown angles (including parallel lines) Conversion between length units and between area units Areas and perimeters of composite figures Areas of parallelograms and trapeziums 	<ul style="list-style-type: none"> Percentage increase and decrease, finding the whole given the part and the percentage Ratio (equivalent, of a quantity) and rate Speed, distance, time 	<ul style="list-style-type: none"> area of a circle Visualise and identify 3-D shapes and their nets Volume of cuboid, prism, cylinder, composite solids 	<ul style="list-style-type: none"> representations Mean, median and mode averages The range and outliers
As well as looking at the termly projects, highest attaining students may be stretched through depth by consideration of the following:					
<ul style="list-style-type: none"> Egyptian fractions Continued fractions HCF and LCM generalisation 	<ul style="list-style-type: none"> Explore non-linear sequences T-totals 	<ul style="list-style-type: none"> Similarity and ratio Complex constructions Simple angle proofs 	<ul style="list-style-type: none"> Density Area scale factors Loan repayment 	<ul style="list-style-type: none"> Platonic solids Percentage errors Plans and elevations 	<ul style="list-style-type: none"> Misleading graphs Equal width histograms Sampling methods

Year 9

Autumn 1 Graphs and proportion	Autumn 2 Algebraic expressions	Spring 1 2-D geometry	Spring 2 Equations and inequalities	Summer 1 Geometry	Summer 2 Statistics
All will have access to this specific Key Stage 3 content:					
<ul style="list-style-type: none"> Cartesian coordinates Linear graphs Direct and inverse proportion Calculate with scales Standard form 	<ul style="list-style-type: none"> Sequences including arithmetic and geometric Algebraic manipulation Change the subject of a formula Expansion Factorisation 	<ul style="list-style-type: none"> Construction and loci Triangles and quadrilaterals (angles on diagonals) Congruence and similarity Angles in polygons 	<ul style="list-style-type: none"> Construct and solve equations and inequalities Graphical solutions to simultaneous linear equations Quadratic and other graphs 	<ul style="list-style-type: none"> Pythagoras' theorem Exploring trigonometry with a 30-60-90 triangle Transformations (translation, rotation, reflection) Use known angle and shape facts to obtain simple proofs 	<ul style="list-style-type: none"> Probability Mean of grouped data Compare two data sets Stem-and-leaf diagrams Scatter graphs
As well as looking at the termly projects, highest attaining students may be stretched through depth by consideration of the following:					
<ul style="list-style-type: none"> 3-D coordinates Explore linear and 	<ul style="list-style-type: none"> Algebraic proof 	<ul style="list-style-type: none"> Geometrical proof Euclidean geometry 	<ul style="list-style-type: none"> Regions on graphs Linear programming 	<ul style="list-style-type: none"> Further trigonometry Multiple 	<ul style="list-style-type: none"> Probability problems Equations of lines of

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non-linear graphs		<ul style="list-style-type: none"> Complex constructions 	<ul style="list-style-type: none"> Modelling 	<ul style="list-style-type: none"> transformations 3-D Pythagoras 	best fit
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Year 10

Autumn 1 Number	Autumn 2 Geometry	Spring 1 Reasoning	Spring 2 Geometry & number	Summer 1 Sampling & probability	Summer 2 Applications of algebra
All will be assessed on this specific Key Stage 4 content					
<ul style="list-style-type: none"> Calculations with and rules of indices Calculations with standard form Compound interest Growth and decay Standard non-linear sequences 	<ul style="list-style-type: none"> Enlargement Similar shapes Bearings Trigonometry in right angled triangles 	<ul style="list-style-type: none"> Algebraic arguments Loci Key angle and shape facts Coordinates (including midpoints, problems) Equations of parallel lines Vectors 	<ul style="list-style-type: none"> Properties of 3-D shapes; their plans and elevations Estimation Surface area and volume of pyramids, cones and spheres (including exact answers) Angle proofs Limits of accuracy 	<ul style="list-style-type: none"> Populations and samples Theoretical and experimental probability Listing Set notation Venn diagrams Combined events, including tree diagrams 	<ul style="list-style-type: none"> Expand and factorise binomials Quadratic equations Cubic and reciprocal graphs Simultaneous equations Graphical solutions of equations
Highest attaining students will also be assessed on the following material, which provides good preparation for Key Stage 5					
<ul style="list-style-type: none"> Recurrence relations Surds Recurring decimals Fractional indices Quadratic sequences 	<ul style="list-style-type: none"> Negative scale factors of enlargement 3-D trigonometry and Pythagoras' theorem Combine transformations 	<ul style="list-style-type: none"> Vector proofs Trigonometry graphs Equations of perpendicular lines Further inequalities 	<ul style="list-style-type: none"> Similar areas and volumes Upper and lower bounds Trigonometry in all triangles 	<ul style="list-style-type: none"> Conditional probability 	<ul style="list-style-type: none"> Exponential graphs Complete the square; quadratic formula Quadratic inequalities Algebraic fractions
Throughout KS4: Students will need to keep working on key skills as they occur within other topics, as well as when the skills are being explicitly addressed. These include: Addition, subtraction, multiplication and division; order of operations; fractions, decimals and percentages; rounding and estimation; and algebraic notation.					

Year 11

Autumn 1 Algebra and geometry	Autumn 2 Number & statistics	Spring 1 Revision, extension 1	Spring 2 Revision, extension 2	Summer 1 Revision, extension 3	Summer 2 Examinations
All will be assessed on this specific Key Stage 4 content					
<ul style="list-style-type: none"> Arcs and sectors of circles Using angle and 	<ul style="list-style-type: none"> Represent and describe distributions Identify misleading 	<ul style="list-style-type: none"> Review and revision 	<ul style="list-style-type: none"> Review and revision 	<ul style="list-style-type: none"> Review and revision 	<ul style="list-style-type: none"> Review and revision

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<ul style="list-style-type: none"> shape facts to derive results • Proof in algebra and geometry • Variation 	<ul style="list-style-type: none"> graphs • Time series • Correlation and lines of best fit • Solve problems involving compound units 				
<p>Highest attaining students will also be assessed on the following material, which provides good preparation for Key Stage 5</p>					
<ul style="list-style-type: none"> • Apply and prove circle theorems • Equation of a circle and the tangent to a circle • Variation with powers 	<ul style="list-style-type: none"> • Histograms with equal and unequal class intervals • Cumulative frequency graphs and box plots 	<ul style="list-style-type: none"> • Functions and their inverses • Composite functions • Transformations of functions 	<ul style="list-style-type: none"> • Solve equations by iteration • Gradients of curves and areas under graphs 	<ul style="list-style-type: none"> • Review and revision 	<ul style="list-style-type: none"> • Review and revision
<p>Throughout KS4: Students will need to keep working on key skills as they occur within other topics, as well as when the skills are being explicitly addressed. These include: Addition, subtraction, multiplication and division; order of operations; fractions, decimals and percentages; rounding and estimation; and algebraic notation.</p>					