|  | Term 1 | Term 2 | Term 3 |
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| Year 7 | Analysing and displaying data, number skills, decimals, and measures, Lines and angles | Expressions, functions and formulae, fractions and percentages, probability. | Ratio and proportion, sequences, graphs, and transformations. |
| Year 8 | Statistics charts and graphs, calculations with fractions, expressions, and equations | Percentage, decimals, and fractions, number, real life graphs and decimals and ratio. | Lines and angles, area and volume, straight line graphs. |
| Year 9 Set 1 | Basic number, indices, roots, reciprocals, order of operations, factors, multiples, primes, standard form, surds, algebra: the basics, rearranging and solving equations, sequences, averages, and the range and representing and interpreting data. | Scatter graphs, fractions, percentages, ratio and proportion, angles in polygons and parallel lines, Pythagoras theorem, trigonometry, real life graphs. | Linear graphs, coordinate geometry, quadratic, cubic and other graphs, perimeter, area, and circles, 3D shapes and volume, accuracy and bounds, transformations, constructions, loci, and bearings. |
| Year 9 Set 2 | Real-life graphs, straight line graphs, transformations, ratio, proportion, Pythagoras and trigonometry, probability. | Multiplicative reasoning plans and elevations, constructions, loci, bearings, expanding and factorising quadratics, perimeter, area, volume of 3D shapes. | Fractions, indices, standard form, congruence, similarity, vectors, non-linear graphs, solving simultaneous equations, rearranging formulae. |
| Year 9 Set 3 | Place value, decimals, indices, factors, primes, and multiples, basic algebra, expand, factorise brackets, expressions, substitution, displaying data, scatter graphs | Operations of Fractions, Fraction, Decimals and Percentage conversions, percentages, equations, inequalities, sequences. | Properties of shapes, angle facts, angles in polygons, sampling, averages, perimeter, area, and volume. |
| Year 9 Set 4, $5+6$ | Place value, decimals, indices, factors, primes, and multiples, basic algebra, expand, factorise brackets, expressions, substitution, displaying data, scatter graphs | Ratios of Fractions, Fraction, Decimals and Percentage conversions, percentages, equations, inequalities, sequences. | Properties of shapes, angle facts, angles in polygons, sampling, averages, perimeter, area, and volume. |
| Year 10 Set 1 | Solving quadratics, simultaneous equations, inequalities, probability, multiplicative reasoning, similarity, and congruence in 2D and 3D shapes. | Trigonometric graphs, non-right-angle trigonometry, collecting data, cumulative frequency, box plots, histograms. | Sketching graphs, further graphs, expanding three brackets, circle theorems, circle geometry, further changing the subject, algebraic fractions. |


| Year 10 Set 2 | Solving quadratic and simultaneous equations, inequalities, probability, multiplicative reasoning, similarity, and congruence in 2D and 3D shapes. | Trigonometric graphs, non-right-angle trigonometry, collecting data, cumulative frequency, box plots, histograms. | Sketching graphs, further graphs, expanding three brackets, circle theorems, circle geometry, further changing the subject, algebraic fractions. |
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| Year 10 Set 3 | Real life graphs, straight line graphs, transformations, ratio, proportion, Pythagoras theorem, trigonometry, probability. | Multiplicative reasoning, plans and elevations, constructions, loci, bearings, expanding and factorising quadratics, perimeter, area, and volume. | Fractions, indices, standard form, congruence, similarity, vectors, non-linear graphs, solving simultaneous equations, rearranging formulae. |
| Year 10 Set $4+5$ | Real life graphs, straight line graphs, transformations, ratio, proportion, Pythagoras theorem, trigonometry. | Probability, Multiplicative reasoning, plans and elevations, constructions, loci, bearings. | Expanding and factorising quadratics, perimeter, area, and volume. |
| Year 10 Set 6 | Properties of number, the four operations and ratio | Money, calendar and time | Measures, geometry, statistics. |
| Year 11 Set 1 | 3D Pythagoras, non-right-angle trigonometry, surds, solving equations and inequalities, similar shapes, functions, proportional reasoning, geometric progressions, non-standard sequences. | Quadratic inequalities, quadratic simultaneous equations, sketch and interpret non-linear or quadratic graphs, graph transformations, construct and interpret diagrams for grouped discrete data, rates of change and vectors | Exam revision |
| Year 11 Set 2 | 3D Pythagoras, non-right-angle trigonometry, surds, solving equations and inequalities, similar shapes, functions, proportional reasoning, geometric progressions, non-standard sequences. | Quadratic inequalities, quadratic simultaneous equations, sketch and interpret non-linear or quadratic graphs, graph transformations, construct and interpret diagrams for grouped discrete data, rates of change and vectors | Exam revision |
| Year 11 Set 3 | 3D Pythagoras, non-right-angle trigonometry, surds, solving equations and inequalities, similar shapes, functions, proportional reasoning, geometric progressions, non-standard sequences. | Quadratic inequalities, quadratic simultaneous equations, sketch and interpret non-linear or quadratic graphs, graph transformations, construct and interpret diagrams for grouped discrete data, rates of change and vectors | Exam revision |


| Year 11 Set 4 | Rounding, accuracy, sequences, <br> trigonometry, bearings, equations, <br> inequalities, simultaneous equations, <br> transformations, y=mx+c, inequalities, <br> growth and decay, fdp. | Proportion, surface area and volume of <br> 3D shapes, factorise a quadratic, <br> rearranging formulae, solve a quadratic, <br> interpret quadratic graphs, use a sample <br> to infer properties of a population, <br> probability. | Exam revision |
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| Year 11 Set 5 | Trigonometry, roots, indices, <br> simultaneous equations, similar shapes, <br> factorising quadratic expressions, <br> proportion, geometric progressions, <br> surface area and volume of 3D shapes, <br> growth, and decay | Interpret quadratic graphs, solve <br> quadratics, use a sample to infer <br> properties of a population, vectors. | Exam revision |
| Year 11 Set 6 | Geometry, statistics. | Calculations, fractions, decimals, <br> percentages, basic algebra, ratio and <br> perimeter and area. | A: Approximation and relative error; the <br> solutions of equations; approximating <br> functions; numerical differentiation and <br> integration. <br> B: Roots of polynomials; proof by <br> induction; vector and Cartesian equation <br> of a line; scalar product and angle <br> between lines; equation of a plane. |
| Year 12 Further | A: Sorting and packing algorithms and <br> complexity; critical path analysis and <br> resources scheduling; network flows; <br> linear programming; the simplex method of convergence in numerical <br> linear programming applications. <br> B: Complex numbers; Matrices and <br> transformations; Determinant, inverse; <br> simultaneous equations; invariant points <br> and lines; Summing series and formulae. | Bure review and exam practice. <br> END OF YEAR 12 EXAM |  |
| Year 12 Maths | A: Calculating with fractions and indices; <br> the binomial theorem and combinations; <br> proof; simultaneous equations; <br> inequalities; quadratics; polynomials and <br> the factor theorem; sketching and <br> transforming graphs. <br> B: Surds and rationalising the <br> denominator; trig recap, sine and cosine | A: Data collection and sampling; summary <br> statistics and outliers; histograms, <br> cumulative frequency, and scatter graphs; <br> probability of mutually exclusive and <br> independent events; probability functions <br> and discrete uniform distributions; the <br> binomial probability distribution; <br> hypothesis testing. | A: Sketching recap and reciprocal graphs; <br> equation of a circle; equations of <br> tangents and normals; exam practice. <br> B: Variable acceleration; exponential <br> modelling. <br> END OF YEAR 12 EXAM. |
| A: Partial fractions. |  |  |  |


|  | rules, area of a triangle; parallel and perpendicular lines, length, and mid-point of line segment; $y=m x+c$ and intersections; proportion graphs; vectors; kinematics with constant acceleration; force diagrams and Newton's laws of motion; connected particles, lifts, and pulleys. | B: Differentiation from first principles, differentiation, and gradient graphs; equations of tangents and normals, sketching graphs using stationary points; exponential and logarithmic functions and graphs; the exponential function; natural logarithms; second derivatives; integration and the fundamental theorem of calculus; trigonometric graphs and identities (sin, cos, tan). | B: Radians, sectors, and small angle approximations. |
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| Year 13 Further | A: Homogeneous recurrence relations; applications of homogeneous recurrence relations; non-homogeneous recurrence relations; properties of sequences and limits; applications of non-homogeneous recurrence relations. <br> Set notation; defining groups; group theory; subgroups and Lagrange's theorem. <br> B: Summing series with partial fractions; further proof by induction; De Moivre's theorem; roots of unity; Maclaurin's expansion; Euler's formula; Hyperbolic functions; Advanced differentiation and integration; polar coordinates. | A: Invariant lines and eigenvectors; eigenvalues and the characteristic equation of a square matrix; powers of square matrices and the Cayley-Hamilton theorem. <br> Functions of two variables; contours and sections; partial differentiation; tangent planes and normal lines; grad and stationary points. <br> B: Inverse of $3 \times 3$ matrix; vector product; first order differential equation; secondorder differential equations; simultaneous differential equations; applications of integration; mean volumes; volumes of revolution. | Exam practice/study leave. |
| Year 13 Maths | A: Arithmetic sequences and series; geometric sequences and series, sum to infinity; sigma notation; the general binomial expansion; 3D vectors. <br> The Normal distribution; hypothesis testing; proof by contradiction. <br> B: Concavity and points of inflection; inverse trig functions; reciprocal trig | A: Implicit differentiation; connected rates of change; differentiating inverse functions; change of sign; fixed-point iteration; Newton-Raphson method; upper and lower bounds. Conditional probability; hypothesis testing on correlation coefficients; working with Large Data Sets. | Exam practice/study leave. |


|  | functions; reciprocal identities; |  |
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| compound angle formulae; functions, |  |  |
| range, and domain; modulus functions; |  |  |
| projectile motion; forces in 2D; |  |  |
| parametric equations. | B: Integrate exponential, reciprocal, and <br> trigonometric functions; R.sin( $x+a)$ and <br> R.cos $(x+a)$ forms; integration by <br> substitution; integration by parts; <br> integration using partial fractions; <br> working with friction; moments; <br> comprehension preparation. |  |

