

Mathematics Curriculum 2016-2017

| | Autumn 2016 | | Spring 2017 | Summer 2017 |
|-------------|-----------------------------|---|---|---|
| Yr 7 | Delta 1 (Higher) | Mean, mode, median and range Analysing and displaying data Negative numbers Primes, factors and multiples Order of operations Squares, cubes and roots Simplifying algebraic expressions Substitution Fractions, decimals and percentages Calculating with fractions | Angle properties 2D shapes Rounding Decimals Percentages Units of Measure Solving equations Substitution Rearranging equations Trial and improvement | Ratio and proportion Units of measure Perimeter and area Nets of 3D shapes Volume and surface area of cuboids Unit conversion Area and volume unit conversions Sequences Coordinates Linear graphs |
| | Theta 1 (Mid) | Mean, mode, median and range Analysing and displaying data Order of operations Rounding Adding, subtracting, multiplying | Fractions Fractions, decimals and percentages Percentages Probability | Angle properties Properties of 2D shapes Sequences Coordinates in all four quadrants |

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| | | <p>and dividing</p> <p>Primes, factors and multiples</p> <p>Squares, cubes and roots</p> <p>Estimation</p> <p>Simplifying algebraic expressions</p> <p>Substitution</p> <p>Decimals</p> <p>Coordinates</p> <p>Perimeter and area</p> | Ratio and proportion | <p>Straight line graphs</p> <p>Transformations</p> |
| | <p>Pi 1</p> <p>(Lower)</p> | <p>Mean, mode, median and range</p> <p>Analysing and displaying data</p> <p>Place value</p> <p>Order of operations</p> <p>Addition and subtraction</p> <p>Squares numbers</p> <p>Rounding to the nearest 10</p> <p>Multiplying and dividing by 10, 100 and 1000</p> <p>Ratio and proportion</p> <p>Simplifying algebraic expressions</p> | <p>Order of operations</p> <p>Calculator skills</p> <p>Multiplication and division</p> <p>Primes, factors and multiples</p> <p>Units of measure</p> <p>Decimals</p> <p>Rounding to the nearest 10, 100, 1000</p> <p>Basic angle properties</p> <p>Parallel and perpendicular lines</p> | <p>Metric units</p> <p>Area and perimeter</p> <p>Properties of 2D shapes</p> <p>Line and rotational symmetry</p> <p>Fractions</p> <p>Improper fractions and mixed numbers</p> <p>Percentages</p> <p>Reflection, translation and rotation</p> |

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| | | Substitution Coordinates Real life graphs | | |
| Yr 8 | Delta 2 (Higher) | Prime factorisation Index laws Powers of 10 Order of operations Rounding (significant figures) Simplifying expressions Substitution Forming and solving equations Plans and elevations Area and circumference of circles Volume and surface area Pythagoras' Theorem Direct proportion Straight line graphs Real life graphs | Symmetry Transformations Area and volume of enlarged shapes Recurring decimals Percentage change Constructions Nets of 3D shapes Loci | Basic probability Experimental probability Probability tree diagrams Scale diagrams Bearings Congruency and similarity Straight line graphs Parallel and perpendicular lines Direct and inverse proportion |
| | Theta 2 | Negative numbers | Conversion graphs | Calculating with fractions and mixed |

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| (Mid) | <p>Squares, cubes and roots</p> <p>Prime factorisation</p> <p>Area</p> <p>Volume and surface area of cubes and cuboids</p> <p>Metric to imperial conversions</p> <p>Mean from a frequency table</p> <p>Pie charts</p> <p>Complex two way tables</p> <p>Scatter graphs</p> <p>Stem and leaf diagrams</p> <p>Forming and solving linear equations</p> <p>Substitution</p> <p>Simplify and manipulate algebraic expressions</p> | <p>Time distance graphs</p> <p>Real life graphs</p> <p>Calculating with decimals</p> <p>Ratio</p> <p>Rounding to an appropriate degree of accuracy</p> <p>Properties of quadrilaterals</p> <p>Alternate and corresponding angles</p> <p>Interior and exterior angles of polygons</p> | <p>numbers</p> <p>Reciprocals</p> <p>Gradient</p> <p>Equations of straight line graphs</p> <p>Direct proportion</p> <p>Fractions, decimals and percentage</p> <p>Percentage change</p> |
| Pi 2 (Lower) | <p>Addition and subtraction</p> <p>Multiplication (TU x TU and HTU x TU)</p> <p>Negative numbers</p> <p>Ratio</p> | <p>Calculating with decimals</p> <p>Dividing in to a ratio</p> <p>Angle properties</p> <p>Constructing triangles</p> <p>Constructing nets of 3D shapes</p> | <p>Sequences</p> <p>Fractions</p> <p>Percentages</p> <p>Basic probability</p> <p>Experimental probability</p> |

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| | | <p>Simple direct proportion</p> <p>Properties of 3D shapes</p> <p>Nets of 3D shapes</p> <p>Volume and surface area of cubes and cuboids</p> <p>Units of measure</p> <p>Data collection</p> <p>Frequency tables, bar charts and pie charts</p> <p>Simplifying algebraic expression</p> <p>Solving simple equations</p> | <p>Pythagoras' theorem</p> <p>Squares and roots</p> <p>Primes, factors and multiple</p> <p>Using a calculator</p> | |
| Yr 9 | Delta 3 (Higher) | <p>Laws of indices (inc. negative and fractional)</p> <p>Standard form</p> <p>Surds</p> <p>Sequences including quadratic sequences</p> <p>Simplify and manipulate quadratic expressions</p> <p>Solving equations and inequalities</p> <p>Changing the subject of a formula</p> | <p>Direct and inverse proportion</p> <p>Arc length and area of sectors</p> <p>Quadratic graphs</p> <p>Solving quadratic equations</p> <p>Non-linear graphs</p> <p>Compound measure conversion</p> <p>Rates of change</p> <p>Upper and lower bounds</p> | <p>Simultaneous equations</p> <p>Linear functions</p> <p>Graphing inequalities</p> <p>Modelling real life situations</p> <p>Similar triangles</p> <p>Trigonometry in right angled triangles</p> <p>3D Pythagoras' theorem</p> <p>Use known results to obtain simple proofs</p> |

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| | | <p>Algebraic fractions</p> <p>Collecting data</p> <p>Stem and leaf diagrams</p> <p>Frequency polygons</p> <p>Estimating the mean</p> <p>Cumulative frequency</p> <p>Histograms</p> | | |
| | <p>Theta 3</p> <p>(Mid)</p> | <p>Laws of indices</p> <p>Square roots and cube roots</p> <p>Estimate calculations and using BIDMAS</p> <p>Standard form conversion</p> <p>Substitution</p> <p>Simplifying expressions</p> <p>Changing the subject of a formula</p> <p>Algebraic fractions</p> <p>Collecting data</p> <p>Representing and interpreting data (inc. pie charts, frequency polygons and tables)</p> <p>Enlargement</p> | <p>Alternate and corresponding angles</p> <p>Plans and elevations</p> <p>Maps and scale drawings</p> <p>Constructions</p> <p>Constructing nets</p> <p>Loci</p> <p>Construct and solve equations</p> <p>Solve inequalities</p> <p>Simultaneous equations</p> <p>Trial and improvement</p> <p>Area and circumference of circles</p> <p>Pythagoras' theorem</p> | <p>Generating linear and quadratic sequences</p> <p>Gradient and intercept</p> <p>Distance-time graphs</p> <p>Two way tables</p> <p>Probability including probability notation</p> <p>Estimates of probability</p> <p>Listing combinations systematically</p> <p>Probability tree diagrams</p> <p>Similarity and congruence</p> <p>Trigonometry in right angled triangle</p> |

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| | | <p>Rounding to significant figures</p> <p>Compound measures</p> <p>Percentage change</p> | <p>Percentage error</p> <p>Upper and lower bounds</p> | |
| | <p>Pi 3 (Lower)</p> | <p>Calculating with integers and decimals</p> <p>Negative numbers</p> <p>Squares, cubes and roots</p> <p>Laws of indices</p> <p>Prime factor decomposition</p> <p>Constructing and simplifying expressions</p> <p>Sequences</p> <p>Solving equations</p> <p>Collecting data</p> <p>Averages and frequency tables</p> <p>Pie charts and scatter graphs</p> <p>Fraction, decimal and percentage</p> <p>Calculating with fractions and mixed numbers</p> <p>Percentage change</p> | <p>Alternate and corresponding angles</p> <p>Interior and exterior angles</p> <p>Maps and plans</p> <p>Constructions</p> <p>Plans and elevations</p> <p>Volume of shapes made from cuboids</p> <p>Pythagoras' theorem</p> <p>Simplifying and dividing in to a ratio</p> <p>Direct proportion</p> <p>Units of measure</p> | <p>Perimeter and area</p> <p>Substitution</p> <p>Area and circumference of circles</p> <p>Changing the subject of a one-step formula</p> <p>Probability</p> <p>Probability tree diagrams</p> <p>Transformations</p> <p>Coordinates (four quadrants)</p> <p>Properties of triangles and quadrilaterals</p> |

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| Yr 10 | GCSE Mathematics Edexcel 1MA1 (Foundation) | | |
| | Unit 1 Number Unit 2 Algebra Unit 3 Graphs, tables and charts Unit 4 Fractions and percentages Unit 5 Equations, inequalities and sequences | Unit 6 Angles Unit 7 Averages and range Unit 8 Perimeter, area and volume 1 Unit 9 Graphs Unit 10 Transformations | Unit 11 Ratio and proportion Unit 12 Right-angled triangles Unit 13 Probability Unit 14 Multiplicative reasoning Unit 15 Constructions, loci and bearings |
| | GCSE Mathematics Edexcel 1MA1 (Higher) | | |
| | Unit 1 Number Unit 2 Algebra Unit 3 Interpreting and representing data Unit 4 Fractions, ratio and proportion Unit 5 Angles and trigonometry | Unit 6 Graphs Unit 7 Area and volume Unit 8 Transformation and constructions Unit 9 Equations and inequalities Unit 10 Probability | Unit 11 Multiplicative reasoning Unit 12 Similarly and congruence Unit 13 More trigonometry Unit 14 Further statistics Unit 15 Equations and graphs |
| Yr 11 | GCSE Mathematics Edexcel 1MA1 (Foundation) | | |
| | Unit 16 Quadratic equations and graphs Unit 17 Perimeter, area and volume 2 Unit 18 Fractions, indices and standard form Unit 19 Congruence, similarity and vectors | Revisiting topics | Revision |

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| | Unit 20 More algebra | | |
| | GCSE Mathematics Edexcel 1MA1 (Higher) | | |
| | Unit 16 Circle theorems Unit 17 More algebra Unit 18 Vectors and geometric proof Unit 19 Proportion and graphs | Revisiting topics | Revision |
| Yr 12 | AS Level Mathematics (AQA) | | |
| | Core1 Decision 1 | Core 2 Decision 1 | Revision Core 3 |
| Yr 13 | A2 Level Mathematics (AQA) | | |
| | Core 3 Mechanics 1 or Statistics 1 | Core 4 Mechanics 1 or Statistics 1 | Revision |