

Achievements

GCSE

- 9 – 7 grades: 20%
- 9 – 5 grades: 53%
- 9 – 4 grades: 76%
- 9 – 1 grades: 100%

A Level

- A*-A grades: 36%
- A* – B grades: 55%
- A* – C grades: 73%
- A* – E grades: 100%

Welcome to Maths.

“At Stuart Bathurst Catholic High School, the Mathematics Department has a clear vision; that students enjoy learning, are inspired and enthused about Mathematics. We endeavour to deliver exciting lessons that encourage students to explore Mathematics and have a deep understanding. Through our activities we strive to give students:

- mathematical knowledge, oral, written and practical skills to encourage confidence and success
- the ability to apply mathematics to everyday situations and recognise the part it plays in the world around them
- an appreciation of imaginative and creative work arising from mathematical ideas.

The Department aims to forge cross-curricula links to support Numeracy in other subjects to empower students to use logical reasoning in all areas of study.

Students are supported to make sure they meet and exceed their targets through high quality teaching, frequent homework and through the use of independent study.

Should you have any questions, all teachers would be glad to help. Just get in touch with us.”

Mr. Q. Mughal
Head of Mathematics

Summary/Topics

YEAR 7	<p>Number Properties 1 All operations of integers/decimals/fr actions, place value/ordering, BIDMAS, Powers and Roots</p> <p>Interpreting Data Stem & Leaf, Grouped Frequency, Scatter Graph, Pie Chart</p> <p>Collecting and Interpreting Data Averages from a list, averages from a table, Two Way Tables, Venn Diagrams</p>	<p>Number Properties 2 Prime Factors, HCF & LCM</p> <p>Algebra 1 Collecting Like Terms, Substitution</p> <p>FDP Fractions of amount & shapes, Converting FDP, Percentage (Calc & Non-Calc), % Increase/decrease, compound interest</p> <p>Approximations Rounding, Estimation,</p> <p>Algebra 2 Simplifying, Expanding and Factorising, Solving Equations</p>	<p>Algebra 3 Changing the subject</p> <p>Geometry & Measures All angles stuff, properties of 2d and 3d shapes, surface area & volume, conversion of units</p> <p>Sequences & Graphs Coordinates, Linear graphs, Sequences, Nth Term</p>	<p>Probability Probability of events from a list, Carry out experiments and record results, combinations, sample space</p> <p>Ratio/Proportion Simplifying Ratio, Writing Ratios, Using Ratio (maps), Sharing by a ratio, Unitary method for proportion, Three part ratio</p> <p>Shape Properties Properties of 2D shapes, Constructing Triangles</p> <p>Circles Area & Circumference, Compound Shapes</p>	<p>Solving Equations & Inequalities Forming and solving equations, Forming and solving inequalities</p> <p>Plotting & Sketching Graphs Linear Graphs, Quadratic Graphs, Gradient, Equation of a line</p>	<p>Triangles & Constructions Constructions and Loci, Pythagoras' Theorem</p> <p>Scale Measuring Lines and Angles, Scale drawings, Maps, Bearings</p> <p>Transformations Rotational and reflectional symmetry. All transformations (including mixed)</p>
YEAR 8	<p>Number Properties 1 All operations of integers/decimals/fr actions, place value/ordering, BIDMAS, Powers and Roots</p> <p>Geometry & Measures All angles stuff, properties of 2d and 3d shapes, surface area & volume, conversion of units</p> <p>Number Properties 2 Prime Factors, HCF & LCM</p> <p>Algebra 1 Collecting Like Terms, Substitution</p> <p>FDP Fractions of amount & shapes, Converting FDP, Percentage (Calc & Non-Calc), % Increase/decrease, compound interest</p>	<p>Approximations Rounding, Estimation,</p> <p>Algebra 2 Simplifying, Expanding and Factorising, Solving Equations</p> <p>Collecting & Interpreting Data Averages from a list, averages from a table, Two Way Tables, Venn Diagrams</p> <p>Sequences & Graphs Coordinates, Linear graphs, Sequences, Nth Term</p> <p>Proportion 1 Simplifying Ratio, Writing Ratios, Using Ratio (maps), Sharing by a ratio, Unitary method for proportion, Three part ratio</p>	<p>Ratio and Scale Measuring Lines and Angles, Scale drawings, Maps, Bearings</p> <p>Shape Properties Properties of 2D shapes, Constructing Triangles</p> <p>Algebra 3 Changing the subject</p> <p>Transformations Rotational and reflectional symmetry. All transformations (including mixed)</p>	<p>Probability Probability of events from a list, Carry out experiments and record results, combinations, sample space</p> <p>Triangles and Congruency Constructions and Loci, Pythagoras' Theorem</p> <p>Interpreting Data Stem & Leaf, Grouped Frequency, Scatter Graph, Pie Chart</p>	<p>Circles Area & Circumference, Compound Shapes</p> <p>Proportion Direct and inverse proportion, Compound interest & decay</p>	<p>Equations & Inequalities Forming and solving equations, Forming and solving inequalities</p> <p>Plotting and Sketching Graphs Linear Graphs, Quadratic Graphs, Gradient, Equation of a line</p>

YEAR 9	<p>Number Properties 1 All operations of integers/decimals/fr actions, place value/ordering, BIDMAS, Powers and Roots</p> <p>Geometry & Measures All angles stuff, properties of 2d and 3d shapes, surface area & volume, conversion of units (including area and volume), angles in polygons</p> <p>Number Properties 2 Prime Factors, HCF & LCM, Standard Form, Laws of Indices</p> <p>Algebra 1 Collecting Like Terms, Substitution, Compound Measures, Best Value, Rearranging Formulae</p> <p>FDP Fractions of amount & shapes, Converting FDP, Percentage (Calc & Non-Calc), % Increase/decrease, multipliers, compound interest, reverse %</p>	<p>Proportion 1 Simplifying Ratio, Writing Ratios, Using Ratio (maps), Sharing by a ratio, Unitary method for proportion, Three part ratio, Recurring decimals</p> <p>Approximations Rounding, Estimation, Upper & Lower Bounds, Error Intervals</p> <p>Algebra 2 Simplifying, Expanding and Factorising, Solving Equations</p> <p>Collecting & Interpreting Data Averages from a list, averages from a table, Two Way Tables, Venn Diagrams, Sampling, Time Series Graphs</p> <p>Sequences & Graphs Coordinates, Linear graphs, Sequences, Nth Term, Quadratic Sequences, Scatter Graphs</p>	<p>Ratio and Scale Measuring Lines and Angles, Scale drawings, Maps, Bearings, Similar Shapes</p> <p>Shape Properties Properties of 2D shapes, Constructing Triangles, Congruency,</p> <p>Algebra 3 Changing the subject, proof, functions</p> <p>Transformations Rotational and reflectional symmetry. All transformations (including mixed)</p>	<p>Probability Probability of events from a list, Carry out experiments and record results, Venn diagrams, two way tables, combinations, sample space</p> <p>Triangles and Congruency Constructions and Loci, Pythagoras' Theorem, Trigonometry</p> <p>Interpreting Data Stem & Leaf, Grouped Frequency, Cumulative Frequency, Box Plots, Scatter Graph, Pie Chart</p>	<p>Circles Area & Circumference, Cones & Spheres, Circle Theorems</p> <p>Proportion Direct and inverse proportion, Compound interest & decay, Reverse percentages</p>	<p>Equations & Inequalities Forming and solving equations, Forming and solving inequalities, Simultaneous equations, Solving quadratics</p> <p>Plotting and Sketching Graphs Linear Graphs, Quadratic Graphs, Gradient, Equation of a line, Parallel and Perpendicular Lines, Cubic/Reciprocal/Trig Graphs</p>
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YEAR 10	<p>Number Properties 1 All operations of integers/decimals/fractions, place value/ordering, BIDMAS</p> <p>Geometry & Measures All angles stuff, properties of 2d and 3d shapes, surface area & volume, conversion of units</p> <p>Number Properties 2 Prime Factors, HCF & LCM, Standard Form, Laws of Indices</p> <p>Algebra 1 Substitution, Compound Measures, Best Value</p> <p>FDP Converting FDP, Percentage (Calc & Non-Calc), % Increase/decrease, multipliers, compound interest, reverse %</p> <p>Approximations Estimation, Upper & Lower Bounds, Error Intervals</p>	<p>Algebra 2 Expanding and Factorising, Solving Equations, Algebraic Fractions</p> <p>Collecting & Interpreting Data Averages from a table, Two Way Tables, Venn Diagrams, Sampling, Time Series Graphs</p> <p>Sequences & Graphs Sequences, Nth Term, Quadratic Sequences, Scatter Graphs</p> <p>Proportion 1 Simplifying Ratio, Using Ratio (maps), Sharing by a ratio, Unitary method for proportion, Three part ratio, Recurring decimals</p> <p>Ratio and Scale Scale drawings, Maps, Bearings, Similar Shapes (including area and volume)</p>	<p>Shape Properties Constructing Triangles, Congruency, Pythag</p> <p>Algebra 3 Changing the subject, proof, functions (including composite)</p> <p>Transformations All transformations (including mixed), vectors</p> <p>Probability Carry out experiments and record results, Venn diagrams, two way tables, combinations, sample space, tree diagrams,</p>	<p>Triangles and Congruency Constructions and Loci, Pythagoras' Theorem, Trigonometry, exact trig</p> <p>Interpreting Data Stem & Leaf, Grouped Frequency, Cumulative Frequency, Box Plots, Scatter Graph, Pie Chart, Histograms</p> <p>Circles Area & Circumference, Arcs and Sectors, Cones & Spheres, Circle Theorems</p>	<p>Proportion Direct and inverse proportion, Compound interest & decay, Reverse percentages, Iteration, rates of change, area under a graph</p> <p>Equations & Inequalities Forming and solving equations, Forming and solving inequalities, Simultaneous equations, Solving quadratics, iteration</p>	<p>Plotting and Sketching Graphs Linear Graphs, Quadratic Graphs, Gradient, Equation of a line, Parallel and Perpendicular Lines, Cubic/Reciprocal/Tri g Graphs, Speed/Distance/Time Graphs, Real Life Graphs, Function Notation</p>
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KS5 Summary/Topics

YEAR 12	Algebraic expression Quadratics Equations and inequalities Graphs and Transformations	Straight line graphs Circles Algebraic methods The binomial expansion Trigonometry Ratios	Trigonometry identities Vectors Differentiation Integration Exponentials and Logarithms
YEAR 13	Algebraic Methods Functions and graphs Sequences and series Binomial Expansion Radians Trigonometric functions	Trigonometry and modelling Parametric Differentiation Numerical Methods Integration Vectors	

Exam information

For GCSE, students are entered into the Edexcel exam board. However, all exam boards cover the same topics. There are 3 papers in total, examined at the end of year 11.

For A Level, students are entered into the Edexcel exam board. There are 3 papers in total, examined at the end of year 13.

All students have an additional lesson in year 10, where they will prepare for the Statistics GCSE, to be sat at the end of year 10.

There is also opportunity for students to be entered into Further Mathematics GCSE in year 11, and the AEA and STEP qualification in sixth form.

Extra-curricular opportunities

In years 7-10, students are entered into the UKMT challenge, as well being given the opportunity to attend regional maths competitions and events.

There is also a Cipher club for those interested in breaking codes.

In the sixth form, students are taken to University based lectures on Mathematics.

Equipment

Students are expected to have the below equipment every day:

- Casio fx-85GTX PLUS Calculator
- Ruler
- Protractor
- Pair of Compasses
- HB pencil
- Black Pen
- Eraser

Interactive Learning and Independent Study

All students are given a HegartyMaths and GCSE Pod account

It is an expectation that students take control of their own learning and revise topics they have covered on a regular basis. Watching the video tutorials on HegartyMaths and completing the interactive questions is an excellent way of doing this.

If your child misses time off school this can be used to ensure your child doesn't fall behind. To find out which topics have been missed, please speak to your child's Maths teacher.

Useful Web Links

www.hegartymaths.com

www.mrbartonmaths.com/

www.supermathsworld.com

www.corbettmaths.com

www.interactivestuff.org/match/math.phtml

www.nrich.maths.org