MATHEMATICS

FINAL GCSE EXAM

YEAR 10
- To cover the majority of the GCSE specification
- Use effective learning strategies to recap and emb prior knowledge from year 9 to be able to build on this knowledge with new concepts
- To understand different revision techniques
- To introduce students to GCSE exam papers and questions

YEAR 11

- Simultaneous equations
- Drawing quadratic, cubic graphs
- Solving quadratics by factorising
- (H) Area under a curves
- (H) Equation of a circle
- (H) Algebraic functions
- (H) Functions and iteration

- (H) Trigonometry of non-right angled triangles
- (H) Vector geometry

Direct & inverse proportions

- Index laws
- Standard forms

- Probability
- Pie charts, scatter graphs
- Grouped data
- (H) Venn diagrams
- (H) Tree diagrams
- (H) Conditional probability
- (H) Box plots
- (H) Cumulative frequency, histograms

YEAR 11
- To complete the GCSE specification
- To practise applying all GCSE maths content in the context of exam questions
- To show students where the maths they are using is linked to further study, life and employment
- To build resilience by using and acting upon feedback from practise papers
- Promote studying maths post-16 (A level Maths and Core Maths)

Data & Proportion | Shape | Algebra | Ratio & Proportion | Number | YEAR 11 | Data & Probability

YEAR 10

- (H) Laws of indices, negative/fractional indices
- (H) Standard Form
- (H) Recurring decimals
- (H) Surds
- (H) Limits of accuracy

- Percentages, reverse percentages
- Compound measures
- Compound interest
- Direct and inverse proportion
- FDP

- Nth term of linear sequences
- Solving linear equations with brackets and unknowns on both side
- (H) Simultaneous equations (2 linear and 1 linear and 1 non-linear)
- (H) Linear and graphical inequalities
- (H) Trial and improvement

- Ares of 2D shapes
- Volume % SA of 3D shapes
- Pythagoras' Theorem & trigonometry
- (H) Area & Volume of similar shapes
- (H) Circle theorems

- Frequency tables
- Line graphs
- Algebra
- (H) Scatter diagrams

YEAR 10 | Number | Ratio & Proportion | Algebra | Shape | Data & Probability

- Drawing linear graphs and using y = mx + c
- Parallel lines (H) Perpendicular lines
- Substitution
- Expanding 2 brackets (H) more than 2
- Factorising quadratics (H) $ax^2 + bx + c$
- (H) Nth term of quadratic sequences
- (H) Simultaneous equations on a graph

- Ratio
- Speed (H) Density, Pressure
- Direct proportion
- Best buys
- (H) Compound interest
- (H) Reverse percentages

- BIDMAS, negative numbers
- Multiples, factors, LCM, HCF
- Rounding and approximating
- Fraction arithmetic
- (H) Percentage increase and decrease
- (H) Expressing one quantity as a percentage of another

- (H) Solving quadratics using factorising, formulae and completing the square
- (H) Quadratic inequalitie

YEAR 9

- Scale drawings
- Nets, isometric drawing
- Angles in polygons and parallel lines
- Bearings
- (H) Constructions, bisectors and loci
- (H) Area, volume and SA of shapes
- (H) Pythagoras' Theorem in 2D and 3D shapes
- (H) Trigonometry in right angled triangles

Area of standard 2D shapes
- Surface area of cuboids
- Area and circumference of circles
- Angles in polygons
- Volume and surface area of prisms

- Pie charts
- Scatter graphs and correlation
- Grouped frequency
- Deciding which average to use
- Statistical investigations

Algebra | Shape | Data & Probability | YEAR 9 | Ratio & Proportion | Number

YEAR 9
- To begin to cover new GCSE concepts at an appropriate level
- Use effective learning techniques to recap and embed prior knowledge from year 8 to be able to build on this knowledge with new concepts
- To be able to use more advanced features of a scientific calculator
- To regularly access GCSE problem solving questions
- To learn how specific areas of maths are used in employment

KS4

- Expanding brackets and 2 brackets (extension)
- Powers
- Solving equations with brackets, unknowns on both sides
- Rearranging formulae
- Factorising

- Direct and inverse proportion
- Graphical representation of proportion
- Speed

- Pythagoras' Theorem
- Introducing trigonometry (extension)

- Significant figures
- Powers of 10, standard form for larger numbers
- Multiplying and dividing fractions and mixed numbers
- Simple interest
- Percentage increase and decrease

Algebra | Shape | Ratio & Proportion | Number

- Use linear graphs in form y = mx + c
- Use real life graphs

- Drawing simple straight line graphs
- Coordinates in 4 quadrants

- Area of rectangles and compound shapes
- Volume of cuboids, terminology of 3D shapes and nets
- Measuring and drawing angles
- Angles in triangles and quadrilaterals
- Angles in parallel lines

- Language of probability and probability scales
- Probability in experiments
- Sample space

YEAR 8
- Use effective learning techniques to recap and embed prior knowledge from Year 7 to be able to build on this knowledge with new concepts
- To appreciate where maths is used across the curriculum
- To begin to acknowledge how different elements of maths are connected
- To use problem solving routinely in lessons

- Term to term rules for sequences
- nth term of sequences
- Substitution into formulae
- Simplifying expressions
- Setting up and solving simple linear equations

Algebra | Shape | Data & Probability | YEAR 8

- Powers, factors, multiples, HCF, LCM
- Rounding
- BIDMAS
- Finding simple percentages

Reflection, rotation, translation
- Tessellations

- Averages
- Collecting and representing data in graphs
- Pie charts

YEAR 7
- To consolidate KS2 work and where there are gaps in knowledge to reduce variation in students' knowledge
- To foster a love of problem solving to become a resilient learner
- To be able to operate a scientific calculator
- To show students the importance of studying maths
- Introducing algebra as a concept of generalisation

Ratio & Proportion | Number | YEAR 7

- Simplifying ratios
- Sharing in ratios
- Connections between fractions, sharing and ratio

- Ensure secure knowledge of the four operations
- Four operations with negative numbers
- Four operations with decimals, ordering decimals and estimation
- Adding, subtracting fractions, equivalent fractions, comparing fractions

- Transition problem solving lessons
- Assessment of students prior knowledge from KS2

KS3