

medium of mathematics



Further mathematics
Projectiles
Moments
Application of forces
Forces & Friction

Normal Distribution
Conditional Probability
Regression, Correlation & Hypothesis Testing

Vectors
Integration
Differentiation

Parametric equations
Trig functions and modelling
Radians

Sequences and series
Binomial expansion
Functions and graphs

Variable Acceleration
Constant Acceleration
Modelling Mechanics

Examinations
Transformation of curves
Gradient (curves)
Area under curves
Algebraic fractions
Algebraic proofs

Algebraic expressions & methods
Quadratic Equations & Inequalities
Co-ordinate geometry
Exponentials and logarithms

Graphs Transformations
The binomial expansion
Trigonometric identities and equations

Differentiation
Data Collection
Probability
Statistical Distributions

Data Representation & Interpretation
Vectors

Hypothesis Testing
Statistical Distributions

Proportions and Proportional Change
Ratio and fractions
Percentages and interest
Product rule for counting

Quadratic sequences
Simultaneous equations-quad
Equation of a circle
Advanced Probability (H-Algebraic tree diagrams) (F-Set notation)

Statistical diagrams (cumulative frequency/box plots/histograms)
Shape + Space (F-Volume/surface area (H-Rearranging))

Angles+Geometry (H-Circle theorems/Congruent proofs) (F-Angles in Polygons/Parallel lines)

Algebra+Quadratics (H-Complete the squares/turning point/rearranging) (F-Solving Equations)

Compound measures
Bearings+Trig
Direct+Inverse proportion-H/

Statistical diagrams (scatter graphs/frequency polygons/pie charts/sampling)

LCM and HCF with Venn diagrams-H
SURDS-H Powers and roots-F
SURDS-F Degree of accuracy

Upper+lower bounds-H
Error interval Rounding (F) Estimation

Equations and Geometry (Area+volume) Simultaneous equations-LINEAR
Sim Equations-Graphical Parallel/Perpendicular

Quadratics-solving, formula, quadratic graphs-H
Expanding+factorising -F

Linear inequalities
H-Quadratic inequalities
Functions/recurring decimals proofs
Vectors (F-Column Vectors) (H-Vector Geometry)

Trigonometry (Right angle triangles)
Algebraic manipulations (Rearranging)

Probability-set notation (Venn diagrams)
Linear graphs (plot/gradients/ y=mx+c)

Circles-circumference/area/perimeter (semi-circle/quarters)/Arc lengths and sectors

Constructions and loci/Triangle and congruence

Linear Sequences
Scale factor- Length, Area & Volume

Ratio and Proportions
Pythagoras Theorem
Compound measures

Angles - Measuring and Facts
Area and perimeter
Ratio and proportion

Laws of indices
H-Fractional and negative
Angles- Parallel lines and Bearings

Averages and spread
Mixed Fractions
Algebraic thinking-quadratic

Forming and solving equations
Substitution/Sketching graphs

Interior/Exterior angles
Probability (numerical)/ Tree diagrams

Volume
Standard form
Pythagoras Theorem
Compound measures

Percentage and FDP conversions
Rounding and approximation

Algebraic thinking
Presenting and interpreting data

Fractional thinking
Types of number

Written calculations

Can you express a number as a product of prime factors?

Can you apply the grid and bus stop method?

Mastery at Year 13

To tackle less routine problems where they need to apply techniques they have learnt to a range of problems that involve topics from more than one type

Mastery at Year 12

Apply all topics learnt to questions that are unfamiliar by developing the skills to interpret what the questions is asking for

Mastery at Year 11

Fundamentals in completing the squares, circle theorems, congruent proofs, cumulative frequency/box plots/histograms, equation of a circle, surface area, non-linear graphs, product rule for counting, algebraic fractions and proofs, gradient of curves, area under curves, transformation of curves. Fluency and knowledge build up in solving equations, angles in polygons and parallel lines, volume of 3D shapes, simultaneous equations, probability notation and tree diagrams, straight line graphs

Mastery at Year 10

Fundamentals in surds, upper and lower bounds, error intervals, equations and geometry, graphical simultaneous equations, linear and quadratic sequences, functions, recurring, decimals, proofs, vectors, direct and inverse proportion. Fluency and knowledge build up in LCM/HCF-venn diagrams, simultaneous equations, bearings and trigonometry, compound measures

Mastery at Year 9

Fundamentals on ratio and proportion, scale factor(length, area and volume), linear sequences, circles, trigonometry and transformations, statistical data. Fluency in constructions and loci/triangle and congruence, linear graphs, algebraic manipulations(rearranging)

Mastery at Year 8

Fundamentals on laws of indices how to find equation of a straight line, probability, standard form, compound measures, Pythagoras theorem, 3-D shapes. Fluency in algebraic thinking, angles, fractions, algebraic thinking, averages and spread,

Mastery at Year 7

Build confidence and depth of understanding on core maths skills required for future problem solving: Number skills, Algebraic manipulation, Fractions, Percentages & Ratio, 2D shapes