Year 10 & 11 (H)

KS4 Maths Curriculum

Equations & Inequalities

What are compound inequalities and how can we show them? How do we solve quadratic equations by factorising? Can I apply the quadratic formula to solve equations? How do you sketch a graph and identify its turning point?

Similarity and Congruency

How can we determine if two shapes are mathematically similar? What are the properties needed to have congruence between shapes?

Further Trigonometry

How do we use sine, cosine and tangent ratios to find missing sides? Can I rearrange the cosine rule to find missing angles? How would we find a missing length in a 3D shape?

Equations & Graphs

Can I factorise and solve a cubic expression? Can I plot the graph of a cubic function? How can I estimate the solution to a quadratic or cubic equation using iterative formula?

Circle Theorems

Can I solve problems by applying circle theorems? Can I prove circle theorems to be true?

Probability

How do we complete tree diagrams without replacement? How do you complete a Venn Diagram using algebra? What is an independent event? Can I complete Venn diagrams with 3 sets?

Multiplicative Reasoning

Describe the difference between simple and compound interest? Can you find an original amount before repeated percentage change? Can you use proportion to form and solve equations?

Further Statistics

Can I draw and interpret Cumulative Frequency Graphs? How do you compare two sets of data? Why are the bars in a histogram different widths? How do we combine the means of two separate groups?

Further Algebra

Can I change the subject of the formula where the subject appears on both sides of the initial equation? How do you convert a recurring decimal to fractions? Can I simplify algebraic fractions? Can I apply the four operations to algebraic fractions?

Loci and Bearings

Can I draw loci for a path of points that follow a given rule? Can I find and use 3 figure bearings and use angles in parallel lines to find missing bearings?

KS4 Maths Curriculum

Vectors

What is a vector? How do I calculate the resultant of two vectors? Can I prove lines are parallel using vectors? How do I prove that three points lie on a straight line using vectors?

Proportion & Graphs

What is meant by the term 'exponential growth'? Can I sketch, plot and recognise exponential functions? Can I calculate the gradient of a tangent on a curve? What does the area under a curve represent? How do I estimate the area under a non-linear graph?

• Coordinate Geometry

- What is meant by the term 'gradient'? How do I find the gradient of a radius of a circle when I know the centre and a point on the circumference? Can I find the equation of the tangent to a circle at a given point?

Surds

Can I use the four operations to simplify surds? Can I expand single and double brackets involving surds? What does rationalising a denominator mean? Can I rationalise denominators using a conjugate?

Functions & Algebraic Proof

What is a function? Can I solve equations involving functions? How can I prove algebraic expressions are equivalent? Can I prove that an algebraic expression is a multiple of a given number for all integer values of n?

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