



Subject	Year	Term
Further Maths	12	1
Topic		
Complex Numbers, Matrices, Roots, Series, Algorithms & Graph Theory, Linear Programming		
Content (Intent)		
Prior Learning (Topic)	GCSE	
<ul style="list-style-type: none"> • What a complex number is and how to perform calculations involving them. • Perform calculations involving matrices & understand their uses in solving geometrical problems • Roots of polynomials • Sums of series • Introduction to Algorithms • Using linear programming to solve problems 		
Future Learning (Topic)	Proof, Vectors, Volumes of Revolution, Critical Path Analysis, Allocation Problems, Flows in Networks, Game Theory	
What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)	
<ul style="list-style-type: none"> • Understand the modulus & argument • Perform arithmetic with complex numbers • Perform matrix arithmetic and calculate inverses • Solve simultaneous equations using inverse matrices • Understand the properties of roots of polynomials • Understand what an algorithm is and how to use them to solve sorting problems, find shortest routes and minimum connectors 	Formal Homework (Core Maths & Decision Maths) Ongoing self-assessment	
<ul style="list-style-type: none"> • How to plot a complex number on an Argand Diagram and solve loci problems • Understand how matrices can represent linear transformations • Understand sigma notation and use formulae to sum certain series • Use algorithms to solve route inspections problems • Write inequalities to fit real-life problems, solve and represent them graphically 	Formal Homework (Core Maths & Decision Maths) Ongoing self-assessment	
How can parents help at home?		
Formal Homework (Core Maths & Decision Maths) Ongoing self-assessment		
Helpful further reading/discussion (including Reading and Vocabulary Lists)		
Reading Textbooks (ISBN) Core Pure Mathematics Book 1: 9781292183336 Decision Mathematics 1: 9781292183299 Decision Mathematics 2: 9781292183305 Website: https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html#tab-AlevelFurtherMathematics	Vocabulary Lists Modulus Traversable Argument Isomorphic Conjugate Eulerian Determinant Algorithm	