

Year: 12

Subject: A-level Further Maths

Autumn Term			
What has come before and what comes later:	GCSE		
	Core	Decision	Further Statistics
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	<ul style="list-style-type: none"> Do you understand how complex numbers are written and be able to state the imaginary and real parts? Can you multiply complex numbers? Can you find the complex conjugate? Can you find roots of quadratic equations when it involves complex numbers? Can you solve cubic and quartic equations involving complex numbers? Can you represent complex numbers on an Argand diagram? Can you calculate the modulus and argument for a complex number? Can you write complex numbers in the modulus-argument form? Can you solve problems involving loci and regions and the Argand Diagram? Can you calculate the sum of natural numbers? Can you calculate the sums of squares and cubes? Can you find all roots of a quadratic, cubic and quartic equation? Can you solve problems involving expressions relating to the roots of a polynomial? Can you find linear transformations of roots? Can you calculate volumes around the x-axis and y-axis? Can you solve problems involving adding and subtracting volumes? 	<ul style="list-style-type: none"> Do you understand how algorithms work and can you display the using of one? Can you relate algorithms to flow charts? Can you perform a bubble sort? Can you perform quick sort? Can you follow bin-packing algorithms? Can you solve problems involving the order of an algorithm? 	<ul style="list-style-type: none"> Can you find the expected value of a discrete random variable X? Can you find the expected value of X^2? Can you find the variance of a discrete random variable? Are you able to use the expected value and variance of a function X?