Tear 13	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Topic/Theme/ Focus	In this unit students will deepen their understanding of algebraic techniques and working with sequences They will cover fundamental skill such as: Proving statements directly or use prof by contradiction. Understand and use functions, parametric equations and algebraic fractions. Decomposing partial fractions. Using the binomial expansion with fractional and negative powers. Finding the nth term and sum of arithmetic and geometric sequences.	In this unit students will deepen their understanding of trigonometric functions. They will cover fundamental skills such as: Converting between degrees and radians and using radians in problems. Using reciprocal and inverse trigonometric functions. Using trigonometric formulae for compound angles, double angles and half angles. Simplifying and solving equations using trigonometric formulae.	In this unit students will meet new methods of differentiation and integration They will learn fundamental skills such as: Finding points of inflection and determining the concavity of a curve. Using calculus with trigonometric and exponential functions. Using the product, quotient and chain rules for differentiation. Finding derivates of functions defined parametrically or implicitly. Methods of integration including substitution, by parts and using partial fractions. To use integration to solve differential equations where the variables are separable.	In this unit students will be introduced to approximate methods in solving equations and the area under a curve. They will learn fundamental skills such as: Using the change of sign method to estimate roots of equations. Using iterative formulae to estimate roots of equations. Recognising the conditions for iterative sequences to converge. Using the Newton-Raphson method to estimate roots of equations. Using the trapezium rule to find an estimate for the area under a curve.	In this unit students will be meet further concepts in mechanics. They will cover fundamental skill such as: Using constant acceleration equations in two dimensions, including motion as a projectile under gravity. Using calculus to solve problems in two dimensions with variable acceleration. Manipulating vectors in 3 dimensions and solving geometric problems. Modelling force problems involving friction. Taking moments about points and resolving to find unknown forces.	In this unit students will be introduced to further ways in which they can model probabilities and conduct hypothesis teats. They will learn fundamental skills such as: Calculating conditional probabilities from data given in different forms. Applying binomial and normal probability models in different circumstances. Using data to assess the validity of probability models. Carrying out a hypothesis test for correlation. Using data to carry out a hypothesis test for a normal distribution.
Key vocabulary	Contradiction Domain Range Modulus Cartesian	Radians Cosecant Secant Cotangent Inverse	Convex Concave Implicit Product Quotient	Continuous Converge Diverge Interval Ordinates	Constant Variable Coefficient Moment Equilibrium	Conditional Independent Mean Variance Cumulative

	Parametric Order Arithmetic Geometric	Reciprocal Identity Equation				