LONG TERM PLAN 21.22

Vision and Intent: Maths "It is better to solve one problem 5 different ways, than to solve 5 problems the same way" George Polya

Year 7

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40
Year 7	Number - Place Value			Number - FDP equivalence			Number - Addition and Subtraction		Number - Multiplication and Division			Number - fractions and %	Algebra - Sequence	LR Week	CONTINUED Algebra - Sequence	Algebra - understand and use notation		Algebra - equality and equivalence		Number - Directed Number		Number - Addition and Subtraction of fractions				Geometry and Measures - Constructions, measures and using geometric notation		LR Week	Geometry and Measures - Constructions, measures and using geometric		Geometry and Measures - develop geometric reasoning			Number - developing number sense		LR Week				
	Pupils will know: **• place value;** **• how to find equivalent fractions/decimals and percentages;** **• how to add and subtract numbers.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to multiply and divide numbers;** **• how to write numbers as fractions and percentages.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• sequences;** **• understand and use algebraic notation;** **• algebra equality and equivalence.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• and use directed numbers;** **• how to add and subtract fractions.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to construct, measure and use geometric notation;** **• how to develop geometric reasoning;** **• how to develop number sense.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Year 8

Year 8 WD	Algebra - understand and use notation		Algebra - Equality & Equivalence		Ratio and scale		LR Week	Ratio and Proportion - Multiplicative change		Geometry and Measures - constructing, measuring and using geometric notation			Geometry and Measures - Developing geometric reasoning			Number - Multiplying and dividing fractions		Algebra - Working in the cartesian plane		LR Week	Algebra - Brackets, equations and inequalities					Algebra - Sequences	Algebra - Indices		Number - Fractions and percentages				Number - Standard Form Index		Number - Developing number sense	Probability - Tables and probability		LR Week				
Hours	9		7		6 (Higher 7)			7		10			10			7		10			14					3	4		10				7		3	3						
	Pupils will know: **• understand and use algebraic notation;** **• algebra equality and equivalence;** **• ratio and scale and understand gradient as a ratio.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• multiplicative change including direct proportion graphs;** **• how to construct, measure and use geometric notation.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to develop geometric reasoning including missing angles in parallel lines and polygons;** **• how to multiply and divide fractions;** **• how to work in the cartesian plane including non linear graphs.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to work with brackets, equations and inequalities;** **• sequences including finding the nth term;** **• how to apply rules of indices in an algebraic context including powers of powers.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to work with fractions and complex percentages;** **• standard index form with fractional and negative numbers;** **• how to develop number sense including error interval notation;** **• how to work with tables and calculate probabilities.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 8 Core and WS	Algebra - understand and use notation		Algebra - Equality & Equivalence		Ratio and scale		LR Week	Ratio and Proportion - Multiplicative change		Geometry and Measures - constructing, measuring and using geometric notation			Geometry and Measures - Developing geometric reasoning			Number - Multiplying and dividing fractions		Algebra - Working in the cartesian plane		LR Week	Algebra - Brackets, equations and inequalities					Algebra - Sequences	Algebra - Indices		Number - Fractions and percentages				Number - Standard Form Index		Number - Developing number sense	Probability - Tables and probability		LR Week				
Hours	9		7		6 (Higher 7)			7		10			10			7		10			14					3	4		10				7		3	3						
	Pupils will know: **• understand and use algebraic notation;** **• algebra equality and equivalence;** **• ratio and scale.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• multiplicative change;** **• how to construct, measure and use geometric notation.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to develop geometric reasoning;** **• how to multiply and divide fractions;** **• how to work in the cartesian plane.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to work with brackets, equations and inequalities;** **• sequences;** **• how to apply rules of indices in an algebraic context.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to work with fractions and percentages;** **• standard index form;** **• how to develop number sense;** **• how to work with tables and calculate probabilities.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Year 9

Year 9 WD	Number - Developing Number Sense		Geometry and Measures - Area of trapezia and circles		Statistics - Representing Data		LR Week	Statistics - Data Handling Cycle		Statistics - Measures of location		Ratio and Proportion - Ratio and Scale		Ratio and Proportion - Multiplicative change		Algebra - Straight Line Graphs		Algebra - Forming and Solving Equations		Algebra - Testing Conjecture	LR Week	CONTINUED Algebra - Testing Conjecture		Geometry and Measures - 3D shapes			Geometry and Measures - Constructions and Congruency			Number - Numbers		Number - using percentages		Number - Maths and Money		Geometry and Measures - Deduction		Geometry and Measures - Rotation and Translation		Geometry and Measures - Enlargement and Similarity	
Hours	3		8		6			8		7		7		7		7		7		4		3		10			10			7		7		7		3		7		7	
	Pupils will know: **• how to develop number sense including error intervals;** **• how to find the area of trapezia and circles;** **• how to represent data.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• the data handling cycle;** **• measures of location including mean from a table;** **• ratio and scale including gradient as a ratio.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• multiplicative change including direct proportion graphs;** **• plot and read from straight line graphs including perpendicular lines;** **• how to form and solve equations including rearranging complex formulae.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to test conjecture including expanding three binomials;** **• 3D shapes including cones, pyramids and spheres;** **• how to construct and identify congruency.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• and explore different types of numbers including surds;** **• how to use percentages including repeated percentage change;** **• maths and money.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• angles and conjecture with shape and link constructions to geometrical reasoning;** **• how to rotate and translate shapes and find the result of a series of transformations;** **• enlargement and similarity including negative scale factor.** **Pupils will be able to:** **• apply knowledge to solve problems.**							
Year 9 Core and WS	Number - Developing Number Sense		Geometry and Measures - Area of trapezia and circles		Statistics - Representing Data		LR Week	Statistics - Data Handling Cycle		Statistics - Measures of location		Ratio and Proportion - Ratio and Scale		Ratio and Proportion - Multiplicative change		Algebra - Straight Line Graphs		Algebra - Forming and Solving Equations		Algebra - Testing Conjecture	LR Week	CONTINUED Algebra - Testing Conjecture		Geometry and Measures - 3D shapes			Geometry and Measures - Constructions and Congruency			Number - Numbers		Number - using percentages		Number - Maths and Money		Geometry and Measures - Deduction		Geometry and Measures - Rotation and Translation		Geometry and Measures - Enlargement and Similarity	
Hours	3		8		6			8		7		7		7		7		7		4		3		10			10			7		7		7		3		7		7	
	Pupils will know: **• how to develop number sense;** **• how to find the area of trapezia and circles;** **• how to represent data.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• the data handling cycle;** **• measures of location;** **• ratio and scale.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• multiplicative change;** **• plot and read from straight line graphs;** **• how to form and solve equations.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to test conjecture;** **• 3D shapes;** **• how to construct and identify congruency.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• and explore different types of numbers;** **• how to use percentages;** **• maths and money.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• angles and conjecture with shape;** **• how to rotate and translate shapes;** **• enlargement and similarity.** **Pupils will be able to:** **• apply knowledge to solve problems.**							

Year 10

Year 10 WD	Ratio and Proportion		Ratio and Proportion - Rates		Probability		Geometry and Measures - Congruence, Similarity and Enlargement		Geometry and Measures - Trigonometry		Algebra - Equations and inequalities		LR Week	Geometry and Measures - Angles and Bearings		Geometry and Measures - Working with circles		Geometry and Measures - Vectors		Ratio and Proportion - Ratio and Fractions		Ratio and Proportion - Percentages and Interest		Probability 2		Statistics - Collecting, representing and interpreting data			Number - Non calculator methods		Algebra - Types of Number Sequences		Number - Indices and Roots		Algebra - Manipulating expressions and Simultaneous Equations					
Hours	5		6		7		7		10		9			6		8		4		7		7		7		9			5		5		6		10					
	Pupils will know: **• how to solve ratio and proportion problems including direct and inverse with applications to algebra;** **• how to solve problems involving rates;** **• probability.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• congruence, similarity (in 2D and 3D) and enlargement with negative and fractional scale factors;** **• Pythagoras' theorem and trigonometry in any triangle;** **• equations and inequalities including those involving quadratics.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• angles and bearings including the sine/cosine rule;** **• how to work with circles including arc lengths and sectors;** **• vectors;** **• ratio and fractions including ratio in area and volume problems.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• percentages and interest including iterative processes;** **• how to calculate probabilities including conditional probability;** **• how to collect, represent and interpret data using box plots, histograms, cumulative frequency and stratified sampling.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• non- calculator methods including working with surds and bounds;** **• types of number sequences including quadratic sequences and involving surds;** **• indices and roots including fractional and negative powers;** **• how to manipulate expressions and solve simultaneous equations including quadratics.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 10 Core	Ratio and Proportion		Ratio and Proportion - Rates		Probability		Geometry and Measures - Congruence, Similarity and Enlargement		Geometry and Measures - Pythagoras and Trigonometry		Algebra - Equations and inequalities		LR Week	Geometry and Measures - Angles and Bearings		Geometry and Measures - Working with circles		Geometry and Measures - Vectors		Ratio and Proportion - Ratio and Fractions		Ratio and Proportion - Percentages and Interest		Probability 2		Statistics - Collecting, representing and interpreting data			Number - Non calculator methods		Algebra - Types of Number Sequences		Number - Indices and Roots		Algebra - Manipulating expressions and Simultaneous Equations					
Hours	7		6		7		7		7		9			6		8		4		7		7		7		9			5		5		6		10					
	Pupils will know: **• how to solve ratio and proportion problems;** **• how to solve problems involving rates;** **• probability.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• congruence, similarity and enlargement from a centre;** **• Pythagoras' theorem and trigonometry in right angled triangles;** **• equations and inequalities.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• angles and bearings;** **• how to work with circles;** **• vectors;** **• ratio and fractions.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• percentages and interest;** **• how to calculate probability;** **• how to collect, represent and interpret data.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• non-calculator methods;** **• types of number sequences;** **• indices and roots;** **• how to manipulate expressions and how to solve simple simultaneous equations.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 10 WS	Ratio and Proportion		Ratio and Proportion - Rates		Probability		Geometry and Measures - Congruence, Similarity and Enlargement		Geometry and Measures - Pythagoras' Theorem		Algebra - Equations and inequalities		LR Week	Geometry and Measures - Angles and Bearings		Geometry and Measures - Working with circles		Geometry and Measures - Vectors		Ratio and Proportion - Ratio and Fractions		Ratio and Proportion - Percentages and Interest		Probability 2		Statistics - Collecting, representing and interpreting data			Number - Non calculator methods		Algebra - Types of Number Sequences		Number - Indices and Roots		Algebra - Manipulating expressions and Simultaneous Equations					
Hours	7		6		7		7		7		9			6		8		4		7		7		7		9			5		5		6		10					
	Pupils will know: **• how to solve simple ratio and proportion problems;** **• how to solve problems involving rates;** **• how to solve simple probability.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• congruence, length similarity and enlarge shapes with integer scale factors;** **• Pythagoras' theorem;** **• how to work with simple equations and inequalities.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• angles and bearings;** **• how to work with circles;** **• vectors;** **• ratio and fractions.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• percentages and interest;** **• how to calculate simple probability;** **• how to collect, represent and interpret data.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• non-calculator methods;** **• types of number sequences;** **• indices and roots;** **• how to manipulate expressions.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Year 11

Year 11 WD	Number - Non calculator methods			Probability - Probability		Algebra - types of number sequences		Number - indices and roots		Statistics - Representing Data			Algebra - using trial exam diagnostic to address areas of development							Ratio and Proportion - using trial exam diagnostic to address areas of development			Geometry and Measures - using trial exam diagnostic to address areas of development							Number - using trial exam diagnostic to address areas of development		Revision of non-calculator topics (Higher)		Revision of calculator topics (Higher)										
Hours	10			8		6		7		14			21							14			21							7		7		7						
	Pupils will know: **• how to apply non calculator methods;** **• how to calculate probabilities including conditional probability;** **• types of number sequences involving surds and including quadratic.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• indices and roots including fractional and negative;** **• how to represent data including histograms, cumulative frequency and box plots.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to work with graphs including cubic and reciprocals;** **• how to manipulate quadratics;** **• how to change the subject;** **• functions.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• direct and inverse proportion;** **• ratio;** **• circle geometry;** **• how to find missing angles in diagrams.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to transform shapes around a coordinate grid;** **• how to construct shapes;** **• and revise number topics.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 11 Core	Number - Non calculator methods			Probability - Probability		Algebra - types of number sequences		Number - indices and roots		Statistics - Representing Data			Algebra - using trial exam diagnostic to address areas of development							Ratio and Proportion - using trial exam diagnostic to address areas of development			Geometry and Measures - using trial exam diagnostic to address areas of development							Number - using trial exam diagnostic to address areas of development		Revision of non-calculator topics (Foundation)		Revision of calculator topics (Foundation)										
Hours	10			8		6		7		14			21							14			21							7		7		7						
	Pupils will know: **• how to apply non calculator methods;** **• how to calculate probability;** **• types of number sequences.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• indices and roots;** **• how to represent data.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to work with graphs;** **• how to expand and factorise;** **• how to change the subject.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• direct and inverse proportion;** **• ratio;** **• how to find missing angles in diagrams.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to transform shapes around a coordinate grid;** **• how to construct shapes;** **• and revise number topics.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 11 WS	Number - Non calculator methods			Probability - Probability		Algebra - types of number sequences		Number - indices and roots		Statistics - Representing Data			Algebra - using trial exam diagnostic to address areas of development							Ratio and Proportion - using trial exam diagnostic to address areas of development			Geometry using trial exam diagnostic to address areas of development							Number - using trial exam diagnostic to address areas of development		Revision of non-calculator topics (Foundation)		Revision of calculator topics (Foundation)										
Hours	10			8		6		7		14			21							14			21							7		7		7						
	Pupils will know: **• how to apply non calculator methods;** **• how to calculate simple probability;** **• types of simple number sequences.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• indices and roots;** **• how to represent data in simple charts and graphs.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to work with linear graphs;** **• how to expand and factorise;** **• how to solve equations.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• direct proportion;** **• ratio;** **• how to find missing angles in diagrams.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• how to transform shapes around a coordinate grid;** **• how to construct shapes;** **• and revise number topics.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Resit Maths

	Algebra - equations and inequalities		Number - FDP and percentage calculations		Geometry and Measures - angles and bearings		Number - non calculator methods		Algebra - graphs		Ratio and Proportion		Geometry and Measures - length, area and volume		Statistics - representing data		Algebra - patterns and powers		Geometry and Measures - Pythagoras and Trigonometry		Probability		Number - number sense		Geometry and Measures - transformations		Geometry and Measures - Constructions		Algebra - simultaneous equations and graphs		Geometry and Measures - vectors		Geometry and Measures - similarity and congruence		Revision of non-calculator topics (Foundation)				Revision of calculator topics (Foundation)			
	4		2		4		4		4		4		4		4		4		4		2		4		4		2		4		2		2		6				6			
	Pupils will know: **• how to manipulate expression and solve equations and inequalities;** **• how to convert between FDP and calculate with percentages;** **• angles and bearings;** **• non calculator methods.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• graphs;** **• ratio and proportion;** **• length, area and volume;** **• how to represent data.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• patterns and powers;** **• Pythagoras' Theorem and trigonometry in right angled triangles;** **• probability;** **• number sense.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• transformations;** **• constructions;** **• how to solve simultaneous equations and explore graphs.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• vectors;** **• similarity and congrency.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Year 12

Year 12 Pure and Stats	Pure C1 - Algebraic expressions		Pure C4 - Graphs and transformations			Pure C5 - straight line graphs			- Circles			Vectors			Pure C12 - Differentiation					Stats C1- data collection		Stats C2 - Measures of location and spread			Stats C3- Representation of data	Stats C4 - Correlation	Stats C5- Probability		Stats C6 - Statistical Distributions		Stats C7 - Hypothesis Testing										
Hours	3		6			7			8			8			13					3		8			4	2	4		5		5										
	Pupils will know: **• how to simplify algebraic expressions and work with surds;** **• how to sketch cubic, quartic and reciprocal graphs;** **• how to transform graphs of unfamiliar functions;** **• how to interpret straight line graphs.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• circles;** **• how to find magnitude and direction of a vector;** **• model with vectors.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to differentiate polynomials;** **• how to link differentiation with gradient;** **• the different methods of collecting data.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• measures of location and spread;** **• representations of data;** **• correlation;** **• probability.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• the binomial distribution;** **• hypothesis testing.** **Pupils will be able to:** **• apply knowledge to solve problems.**								
Year 12 Pure and Mechanics	Pure C2 - Quadratics		Pure C3 - Equations and Inequalities		Pure C8 - Binomial		Pure C7 - Algebraic methods				Pure C9 - Trigonometric Ratios		Pure C10 - Trig identities and equations		Pure C14 - Exponential Modelling			Pure C13 - Integration			Mech C8 - Modelling		Mech C9 - Constant acceleration			Mech C10 - Forces and Motion			Mech C11 - Variable acceleration											
Hours	6		5		4		7				5		6		8			8			3		8			7			5											
	Pupils will know: **• quadratics;** **• how to solve simultaneous equations;** **• how to solve linear and quadratic simultaneous equations;** **• the binomial expansion.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• mathematical proof;** **• trigonometric ratios;** **• trigonometric identities.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to solve trigonometric equations;** **• exponential modelling;** **• how to integrate polynomials.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• modelling;** **• constant acceleration;** **• motion in two dimensions.** **Pupils will be able to:** **• apply knowledge to solve problems.**									**Pupils will know:** **• forces and motion;** **• variable acceleration.** **Pupils will be able to:** **• apply knowledge to solve problems.**								

Year 13

Year 13 Pure and Stats	Radians			Trigonometric functions		Trigonometry and modelling			Parametric equations			Differentiation								Sequences and series		Binomial expansion		Regression, correlation & hypothesis testing		Conditional probability		The Normal distribution												
Hours	6			5		10			6			12								7		4		3		5		8												
	Pupils will know: **• radians;** **• the reciprocal trigonometric functions;** **• how to solve trigonometric equations in a given range;** **• the addition and double angle formula.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• trigonometry and modelling;** **• parametric equations;** **• the product rule, the chain rule and the quotient rule.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• how to differentiate;** **• sequences and series;** **• the binomial expansion.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• regression, correlation and hypothesis testing;** **• conditional probability;** **• hypothesis testing (2).** **Pupils will be able to:** **• apply knowledge to solve problems.**																				
Year 13 Pure and Mechanics	Algebraic methods			Functions and graphs			Vectors		Moments			Forces and Friction		Projectiles		Applications of forces			Integration										Numerical methods			Further Kinematics										
Hours	6			7			4		5			4		4		6			18										4			5										
	Pupils will know: **• algebraic methods;** **• composite and inverse functions and their domain and range;** **• modulus functions;** **• vectors.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• moments;** **• forces and friction;** **• projectiles.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• application of forces;** **• integration.** **Pupils will be able to:** **• apply knowledge to solve problems.**							**Pupils will know:** **• numerical methods;** **• how to use vectors in kinematics.** **Pupils will be able to:** **• apply knowledge to solve problems.**																				