

Rainford High School – Department: Maths

Year 10 Curriculum						
Topic	Term 1		Term 2		Term 3	
	<u>Foundation</u>	<u>Higher</u>	<u>Foundation</u>	<u>Higher</u>	<u>Foundation</u>	<u>Higher</u>
	Indices and standard form Sequences Coordinates Graphs of linear functions Transformations	Indices and standard form Surds Sequences Coordinates Graphs of linear functions Graphical inequalities Simultaneous equations Reflections and rotations Translations and enlargements	Collecting data Statistical measures Representing data Scatter graphs Arcs and sectors Basic probability	Similarity and congruence Collecting data Statistical measures Representing data Scatter graphs Quadratics Quadratic graphs Quadratic inequalities Simultaneous equations (inc quadratics)	Probability, probability trees Venn diagrams Simultaneous equations Function machines Quadratics	Probability and Probability trees Venn diagrams Compound measures Kinematics Direct and inverse proportion Graphs of other functions Inverse and composite functions
Essential knowledge, skills and understanding	<ul style="list-style-type: none"> Understanding squares, cubes and their roots Index laws and solving problems with indices Arithmetic with standard form Solving problems with standard form Generate and find rules for arithmetic, geometric and Fibonacci sequences Solve problems with sequences Solving coordinate problems Understanding straight line 	<ul style="list-style-type: none"> Converting and arithmetic with standard form Solve problems involving standard form Multiplying, dividing and simplify surds Expanding and factorising with surds Rationalising the denominator Finding the nth term of a fractional sequence Quadratic sequences Fibonacci and geometric sequences Solving coordinate problems Understanding straight line graphs and their equation Understanding gradient 	<ul style="list-style-type: none"> Types of data Samples and populations Use tables and charts to collect and record data Averages from a list of data and from tables Estimate the mean from grouped data Compare distributions Pie charts, bar charts, time series Misleading graphs Plot and interpret scatter graphs 	<ul style="list-style-type: none"> Similarity (including area and volume) Congruence Proof of congruency in triangles Discrete and continuous data Averages from tables Pie charts, bar charts, time series, misleading graphs Histograms Cumulative frequency graphs and box plots Plot and interpret Scatter graphs using lines of best fit 	<ul style="list-style-type: none"> Use probability trees to solve problems for dependent and independent events. Know what is meant by a set and solve problems involving sets venn diagrams and probability Set up and solve linear simultaneous equations Draw graphs of cubic and 	<ul style="list-style-type: none"> Solve various probability problems involving mutually exclusive events, sample spaces, listing strategies, two way tables, frequency trees, theoretical and experimental probability. Use probability trees to solve problems for dependent and independent events. Including those which lead to quadratic or linear equations Know what is meant by a set and solve problems involving sets venn diagrams and probability Solve more complex and algebraic Venn diagram problems

	<p>graphs and their equation</p> <ul style="list-style-type: none"> • Understanding gradient • Solving problems involving straight line graphs. • Reflect shapes on a grid • Rotate shapes on a grid • Translate shapes given a vector • Enlarge shapes with positive and fractional scale factors • Describe Reflections, rotations, translations and enlargements • Invariant points 	<ul style="list-style-type: none"> • Solving problems involving straight line graphs. • Understand parallel and perpendicular lines and their equations. • Representing inequalities as regions • Set up and solve linear simultaneous equations graphically and algebraically • Reflect shapes on a grid • Rotate shapes on a grid • Translate shapes given a vector • Enlarge shapes with positive, negative and fractional scale factors • Combined transformations • Describe Reflections, rotations, translations and enlargements • Invariant points 	<ul style="list-style-type: none"> • Use lines of best fit to estimate • Recap circles • Areas of sectors and length of arcs • Understand and use the probability scale • Solve various probability problems involving mutually exclusive events, sample spaces, listing strategies, two way tables, frequency trees, theoretical and experimental probability. 	<ul style="list-style-type: none"> • Factorise and solve quadratics • Completing the square • Quadratic formula • Quadratic graphs- plot, sketch, key points • Quadratic inequalities • Solve linear and quadratic simultaneous equations including graphically 	<p>reciprocal functions from tables</p> <ul style="list-style-type: none"> • Understand and use function machines • Interpret an expression using a function machine and vice versa • Factorise and solve quadratics • Solve quadratics when rearranging is needed • Recognise and factorise difference of 2 squares 	<ul style="list-style-type: none"> • Solve problems involving compound measures including speed, pressure, density and population density • Graphs of compound measures • Interpret gradient as a rate of change • Solve SUVAT equation problems • Solve problems using velocity time graphs • Algebraic direct and inverse proportion • Draw graphs of cubic and reciprocal functions from tables • Solve problems with cubic, reciprocal, and circle graphs • Recognise and solve problems with the equation of a circle and related features • Understand and use function machines • Interpret an expression using a function machine and vice versa • Solve problems with composite and inverse functions
Assessments and assessment focus	Topic test 1 Topic test 2	Topic test 3 Topic test 4	Summative test 1 Topic test 5	Topic test 6 Topic test 7	Topic test 8 Topic test 9	End of Year 10 Mock exams