



Year 10 Higher Mathematics Curriculum Map						
Half Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Big Themes</b>	<b>Expressions; Measures and Accuracy; Polygons and Angles; Fractions Decimals percentages</b>	<b>Formulae and Functions; Working in 2D; Equations</b>	<b>Simultaneous Equations; Circles including circle theorems</b>	<b>Pythagoras' Theorem and Trigonometry in right angled triangles; Equations and Inequalities</b>	<b>Probability; Sequences; Ratio and Proportion</b>	<b>Powers and Roots</b>
<b>Knowledge and skills covered</b>	<ul style="list-style-type: none"> <li>Using algebraic notation and simplifying expressions, substitution, indices, brackets, algebraic fractions</li> <li>Approximation, estimations, bounds</li> <li>Angle facts, properties of polygons, congruence, similarity, interior and exterior angles in polygons</li> <li>Fraction and % of amounts, fractions operations, FDP conversion, convert recurring decimals, problem solving with FDP</li> </ul>	<ul style="list-style-type: none"> <li>Substitution, changing the subject, work with inverse and composite functions, identify formulae, expressions, identities, equations, expand and factorise quadratic expressions including difference of two squares</li> <li>Calculating density and speed, bearings, using scale drawings, calculate areas triangles and quadrilaterals and composite shapes, transformations, including invariance</li> <li>Linear equations, completing the square, quadratic formula, factorisation, graphical solutions, fractional equations</li> </ul>	<ul style="list-style-type: none"> <li>Solve simultaneous equations using substitution and elimination and using graphs</li> <li>Calculate the area and circumference of a circle, including composite shapes</li> <li>Calculate arc lengths, angles and areas of sectors</li> <li>Prove and apply circle theorems, using facts about circles, radii, tangents and chords</li> </ul>	<ul style="list-style-type: none"> <li>Use Pythagoras' theorem to find missing sides and angles in right angled triangles, use trig ratios to find missing lengths and angles in right angled triangles, Know exact values of sin, cos and tan or 0, 30, 45, 60 and 90 degrees</li> <li>Use iterative processes to find approximate solutions to equations (NL), use of bounds and trial and improvement to find approximate solutions, solve inequalities and display your solution on a number line or graph - quadratic inequalities will be new learning</li> </ul>	<ul style="list-style-type: none"> <li>Use experimental data to estimate probabilities for future events, calculate theoretical probabilities using the idea of equally likely events, compare theoretical probabilities with experimental probabilities, recognise mutually exclusive events and know that the probabilities of mutually exclusive events sum to 1.</li> <li>Sets - combined events. Use venn diagrams to represent sets, use possibility spaces to represent the outcomes of 2 events, use tree diagrams to show the outcomes of two experiments</li> <li>Use nth term and position to term rules for linear and quadratic sequences, recognise special sequences</li> <li>Express proportions as fractions and %, divide quantities into ratios, use scale factors, use direct proportions problems using algebraic methods, % increase/decrease problems</li> </ul>	<ul style="list-style-type: none"> <li>Know and use the language of prime numbers, factors and multiples, write a number as a product of its prime factors, find the HCF and LCM of a pair of integers, estimate the square or cube root of an integer, find the square and cube roots of numbers and apply the laws of indices, simplify the expressions involving surds including rationalising fractions</li> </ul>
<b>Knowledge organisers and more detailed topic resources can be found on all student Google Classrooms</b>						



**The Charter School**  
East Dulwich