Maths- Y11H

MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
TOPIC (S)	**Algebra: Further quadratics, rearranging formulae and identities**	**Algebra: Further quadratics, rearranging formulae and identities**	**Inequalities**	**Direct and Inverse Proportion**	**Direct and Inverse Proportion**	**Vectors**	**Vectors**
Knowledge & Skills development	**Algebra: Further quadratics, rearranging formulae and identities** • simplify and manipulate algebraic expressions (including those involving surds) by: • expanding products of two or more binomials • factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares • factorising quadratic expressions of the form $ax^2 + bx + c$ • simplifying expressions involving sums, products and powers, including the laws of indices • understand and use standard mathematical formulae • rearrange formulae to change the subject • know the difference between an equation and an identity • argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments to include proofs • where appropriate, interpret simple expressions as functions with inputs and outputs • interpret the reverse process as the 'inverse function' • interpret the succession of two functions as a 'composite function' **Inequalities** • solve linear inequalities in one or two variable(s) • solve quadratic inequalities in one variable • represent the solution set on a number line, using set notation • represent the solution set on a graph (regions) **Direct and Inverse Proportion** • solve problems involving direct and inverse proportion, including graphical and algebraic representations • understand that X is inversely proportional to Y is equivalent to X is proportional to 1/y • construct and interpret equations that describe direct and inverse proportion • recognise and interpret graphs that illustrate direct and inverse proportion **Vectors** • apply addition and subtraction of vectors • apply multiplication of vectors by a scalar • apply diagrammatic and column representations of vectors • use vectors to construct geometric arguments and proofs						

Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	Use of algebra to solve real life problems involving widely used formulae Application of proportionality in real life problems including science Discussion of the use of vectors is real life including science and computing					
SMSC / Promoting British Values **(Democracy, Liberty, Rule of Law, Tolerance & Respect)**	Willingness to participate in, and respond to mathematical opportunities. Use of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socio-economic backgrounds.					
Reading opportunities	Mathematics in the Simpsons, What's the point of maths? Murderous Maths, Marvellous Maths, Launch a rocket into space, Humble Pi.					
Key Vocabulary	Equation Expression Identity Inequality Formula Binomial Polynomial Simplify Expand Factorise Coefficient Subject Inequality Less than More than Variable Solution set Proportionality Direct Inverse Vectors Direction Magnitude Scalar Parallel Collinear					
Digital Literacy	• Microsoft Excel, DESMOS, Geogebra					
Careers	Architecture, Team Leader, Construction, Chef, Medicine					