Maths- Y11H

HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5 and 6	Week 7	Week 8
TOPIC (S)	Algebra: further quadratics, rearranging formulae and identities	Assessment	Algebra: further quadratics, rearranging formulae and identities	Direct and Inverse Proportion	Vectors	Vectors
Knowledge & Skills development	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' 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 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
Key Vocabulary	Equation Expression Identity Inequality Formula Binomial Polynomial Simplify Expand Factorise Coefficient Subject Proportionality Direct Inverse Vectors Direction Magnitude Scalar Parallel Collinear
Digital Literacy	• Microsoft Excel, DESMOS, Geogebra
Careers	Architecture, Team Leader, Construction, Chef, Medicine