



HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
TOPIC (S)	Algebra: Quadratics, Rearranging Formulae and Manipulation	Algebra: Quadratics, Rearranging Formulae and Manipulation	Inequalities	Direct and Inverse Proportion	Direct and Inverse Proportion	Vectors	Vectors
Knowledge & Skills development	<p><u>Algebra: Quadratics, Rearranging Formulae and Manipulation</u></p> <ul style="list-style-type: none"> simplify and manipulate algebraic expressions (including those involving surds) by: <ul style="list-style-type: none"> simplifying expressions involving sums, products and powers, including the laws of indices expanding products of two binomials factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares 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 where appropriate, interpret simple expressions as functions with inputs and outputs <p><u>Inequalities</u></p> <ul style="list-style-type: none"> solve linear inequalities in one variable represent the solution set on a number line <p><u>Direct and Inverse Proportion</u></p> <ul style="list-style-type: none"> 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 interpret equations that describe direct and inverse proportion recognise and interpret graphs that illustrate direct and inverse proportion <p><u>Vectors</u></p> <ul style="list-style-type: none"> apply addition and subtraction of vectors apply multiplication of vectors by a scalar apply diagrammatic and column representations of vectors 						

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 in 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	<ul style="list-style-type: none"> Mathematics in the Simpsons 					
Key Vocabulary	Equation Expression Identity Inequality Formula Binomial Polynomial Simplify Expand Factorise Coefficient Subject Inequality Less than More than Solution Solution-Set Proportionality Direct Inverse Vectors Direction Magnitude Scalar Parallel Collinear					
Digital Literacy	<ul style="list-style-type: none"> Microsoft Excel, DESMOS, Geogebra 					
Careers	Architecture, Team Leader, Construction, Chef, Medicine					