



HALF TERM 1 SEPT - OCT	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7 and 8
TOPIC (S)	Algebra: Quadratics, Rearranging Formulae and Identities	Assessment	Algebra: Quadratics, Rearranging Formulae and Identities	Direct and Inverse Proportion	Direct and Inverse Proportion	Vectors
Knowledge & Skills development	<p>Algebra: Quadratics, Rearranging Formulae and Identities</p> <p>simplify and manipulate algebraic expressions (including those involving surds) by:</p> <ul style="list-style-type: none"> <li>• simplifying expressions involving sums, products and powers, including the laws of indices</li> <li>• expanding products of two binomials</li> <li>• factorising quadratic expressions of the form <math>x^2 + bx + c</math>, including the difference of two squares</li> </ul> <p>understand and use standard mathematical formulae</p> <p>rearrange formulae to change the subject</p> <p>know the difference between an equation and an identity</p> <p>argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</p> <p>where appropriate, interpret simple expressions as functions with inputs and outputs</p> <p>solve problems involving direct and inverse proportion, including graphical and algebraic representations</p> <p>understand that X is inversely proportional to Y is equivalent to X is proportional to <math>1/y</math></p> <p>interpret equations that describe direct and inverse proportion</p> <p>recognise and interpret graphs that illustrate direct and inverse proportion</p> <p>apply addition and subtraction of vectors</p> <p>apply multiplication of vectors by a scalar</p> <p>apply diagrammatic and column representations of vectors</p>					
Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	<p>Use of algebra to solve real life problems involving widely used formulae</p> <p>Application of proportionality in real life problems including science</p> <p>Discussion of the use of vectors in real life including science and computing</p>					

<b>SMSC / Promoting British Values</b> (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.
<b>Reading opportunities</b>	<ul style="list-style-type: none"> <li>Mathematics in the Simpsons</li> </ul>
<b>Key Vocabulary</b>	Equation Expression Identity Inequality Formula Binomial Polynomial Simplify Expand Factorise Coefficient Subject Proportionality Direct Inverse Vectors Direction Magnitude Scalar Parallel Collinear
<b>Digital Literacy</b>	<ul style="list-style-type: none"> <li>Microsoft Excel, DESMOS, Geogebra</li> </ul>
<b>Careers</b>	Architecture, Team Leader, Construction, Chef, Medicine