



YEAR 10 FOUNDATION 2 year course			
Week	Autumn Term 1	Spring Term 1	Summer Term 1
1	<p><b>Place value</b></p> <ul style="list-style-type: none"> <li>✓ Order positive and negative integers, decimals and fractions; use the symbols =, ≠, &lt;, &gt;, ≤, ≥.</li> <li>✓ Apply the four operations +, −, ×, ÷, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals).</li> <li>✓ Apply systematic listing strategies.</li> </ul> <p><b>Rounding</b></p> <ul style="list-style-type: none"> <li>✓ Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) use inequality notation to specify simple error intervals due to truncation or rounding.</li> </ul>	<p><b>Substituting into formulae</b></p> <ul style="list-style-type: none"> <li>✓ Substitute numerical values into formulae and expressions, including scientific formulae.</li> <li>✓ Understand and use standard mathematical formulae; rearrange formulae to change the subject.</li> </ul> <p><b>Using standard formulae</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use standard mathematical formulae; rearrange formulae to change the subject.</li> <li>✓ Where appropriate, interpret simple expressions as functions with inputs and outputs.</li> </ul> <p><b>Equations, identities and functions</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors.</li> <li>✓ Know the difference between an equation and an identity; argue</li> </ul>	<p><b>Circles 1</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use standard mathematical formulae; rearrange formulae to change the subject.</li> <li>✓ Identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference, tangent, arc, sector and segment.</li> <li>✓ Know the formulae: circumference of a circle = <math>2\pi r = \pi d</math>, area of a circle = <math>\pi r^2</math>; calculate: perimeters of 2D shapes, including circles; areas of circles and composite shapes. Surface area and volume of spheres, pyramids, cones and composite solids.</li> </ul> <p><b>Circles 2</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use standard mathematical formulae; rearrange formulae to change the subject.</li> <li>✓ Identify and apply circle definitions</li> </ul>

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		<p>mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments.</p>	<p>and properties, including: centre, radius, chord, diameter, circumference, tangent, arc, sector and segment.</p> <p>✓ Know the formulae: circumference of a circle = <math>2\pi r = \pi d</math>, area of a circle = <math>\pi r^2</math>; calculate: perimeters of 2D shapes, including circles; areas of circles and composite shapes.</p> <p>Surface area and volume of spheres, pyramids, cones and composite solids.</p> <p>✓ Calculate arc lengths, angles and areas of sectors of circles.</p>
2	<p><b>Adding and subtracting</b></p> <p>✓ Apply the four operations +, -, ×, ÷, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals).</p>	<p><b>Expanding and factorising 2</b></p> <p>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors.</p> <p>✓ Simplify and manipulate algebraic expressions (including those involving surds) by:</p> <ul style="list-style-type: none"> <li>- collecting like terms</li> <li>- multiplying a single term over a bracket</li> <li>- taking out common factors</li> </ul>	<p><b>Constructions</b></p> <p>✓ Use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from /at a given point, bisecting a given angle); use these to construct given figures and solve loci problems; know that the perpendicular distance from a point to a line is the shortest distance to the line.</p>

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	<p><b>Multiplying and dividing</b></p> <ul style="list-style-type: none"><li>✓ Apply the four operations +, −, ×, ÷, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals).</li><li>✓ Recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals.</li></ul>	<ul style="list-style-type: none"><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><li>- simplifying expressions involving sums, products and powers, including the laws of indices.</li></ul>	<ul style="list-style-type: none"><li>✓ Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings.</li></ul> <p><b>Loci</b></p> <ul style="list-style-type: none"><li>✓ Use scale factors, scale diagrams and maps.</li><li>✓ Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries; use the standard conventions for labelling and referring to the sides and angles of triangles; draw diagrams from written description.</li><li>✓ Use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from /at a given point, bisecting a given angle); use these to construct given figures and solve loci problems; know that the perpendicular distance from a point to a line is the shortest distance to the line.</li></ul>
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			<ul style="list-style-type: none"> <li>✓ Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings.</li> </ul>
3	<p><b>Terms and expressions</b></p> <ul style="list-style-type: none"> <li>✓ Use and interpret algebraic notation, including:           <ul style="list-style-type: none"> <li>- <math>ab</math> in place of <math>a \times b</math></li> <li>- <math>3y</math> in place of <math>y + y + y</math> and <math>3 \times y</math></li> <li>- <math>a^2</math> in place of <math>a \times a</math>, <math>a^3</math> in place of <math>a \times a \times a</math>, <math>a^2b</math> in place of <math>a \times a \times b</math></li> <li>- <math>a/b</math> in place of <math>a \div b</math></li> <li>- coefficients written as fractions rather than as decimals</li> <li>- brackets</li> </ul> </li> <li>✓ Substitute numerical values into formulae and expressions, including scientific formulae</li> <li>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors</li> </ul> <p><b>Simplifying expressions</b></p> <ul style="list-style-type: none"> <li>✓ Simplify and manipulate algebraic</li> </ul>	<p><b>Measuring lengths and angles</b></p> <ul style="list-style-type: none"> <li>✓ Use scale factors, scale diagrams and maps.</li> <li>✓ Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries; use the standard conventions for labelling and referring to the sides and angles of triangles; draw diagrams from written description.</li> <li>✓ Use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc).</li> <li>✓ Measure line segments and angles in geometric figures, including interpreting maps and scale drawings</li> </ul>	<p><b>Proportion</b></p> <ul style="list-style-type: none"> <li>✓ Express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1.</li> <li>✓ Express a multiplicative relationship between two quantities as a ratio or a fraction.</li> <li>✓ Define percentage as 'number of parts per hundred'; interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively; express one quantity as a percentage of another; compare two quantities using percentages; work with percentages greater than 100%; solve problems involving percentage change, including percentage increase/decrease and original value problems, and simple interest including in financial mathematics.</li> </ul>

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	<p><b>expressions (including those involving surds) by:</b></p> <ul style="list-style-type: none"> <li>- collecting like terms</li> <li>- multiplying a single term over a bracket</li> <li>- taking out common factors</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> <li>- simplifying expressions involving sums, products and powers, including the laws of indices.</li> </ul>	<p><b>and use of bearings.</b></p> <p><b>Area of a 2D shape</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use standard mathematical formulae; rearrange formulae to change the subject.</li> <li>✓ Use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc).</li> <li>✓ Know and apply formulae to calculate: area of triangles, parallelograms, trapezia; volume of cuboids and other right prisms (including cylinders).</li> </ul>	
4	<p><b>Indices</b></p> <ul style="list-style-type: none"> <li>✓ Simplify and manipulate algebraic expressions (including those involving surds) by:           <ul style="list-style-type: none"> <li>- collecting like terms</li> <li>- multiplying a single term over a bracket</li> <li>- taking out common factors</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> </li> </ul>	<p><b>Transformations 1</b></p> <ul style="list-style-type: none"> <li>✓ Identify, describe and construct congruent and similar shapes, including on coordinate axes, by considering rotation, reflection, translation and enlargement (including fractional scale factors).</li> <li>✓ Describe translations as 2D vectors.</li> </ul> <p><b>Transformations 2</b></p>	<p><b>Ratio and scales</b></p> <ul style="list-style-type: none"> <li>✓ Identify and work with fractions in ratio problems.</li> <li>✓ Use scale factors, scale diagrams and maps.</li> <li>✓ Use ratio notation, including reduction to simplest form.</li> <li>✓ Divide a given quantity into two parts in a given part:part or part:whole ratio;</li> </ul>

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	<p>- simplifying expressions involving sums, products and powers, including the laws of indices.</p>	<p>✓ Identify, describe and construct congruent and similar shapes, including on coordinate axes, by considering rotation, reflection, translation and enlargement (including fractional scale factors).</p>	<p>express the division of a quantity into two parts as a ratio; apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing, concentrations).</p> <p>✓ Express a multiplicative relationship between two quantities as a ratio or a fraction.</p> <p>✓ Relate ratios to fractions and to linear functions.</p> <p>✓ Compare lengths, areas and volumes using ratio notation; make links to similarity (including trigonometric ratios).and scale factors.</p>
5	<p><b>Expanding and factorising 1</b></p> <p>✓ Use and interpret algebraic notation, including:</p> <ul style="list-style-type: none"> <li>- <math>ab</math> in place of <math>a \times b</math></li> <li>- <math>3y</math> in place of <math>y + y + y</math> and <math>3 \times y</math></li> <li>- <math>a^2</math> in place of <math>a \times a</math>, <math>a^3</math> in place of <math>a \times a \times a</math>, <math>a^2b</math> in place of <math>a \times a \times b</math></li> <li>- <math>a/b</math> in place of <math>a \div b</math></li> <li>- coefficients written as fractions rather than as decimals</li> <li>- brackets</li> </ul>	<p><b>Probability experiments</b></p> <p>✓ Record describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees.</p> <p><b>Expected outcomes</b></p> <p>✓ Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes of multiple future experiments.</p>	<p><b>Percentage change</b></p> <p>✓ Define percentage as 'number of parts per hundred'; interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively; express one quantity as a percentage of another; compare two quantities using percentages; work with percentages greater than 100%; solve problems involving percentage change, including percentage increase/decrease and</p>

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	<ul style="list-style-type: none"> <li>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors.</li> <li>✓ Simplify and manipulate algebraic expressions (including those involving surds) by:           <ul style="list-style-type: none"> <li>- collecting like terms</li> <li>- multiplying a single term over a bracket</li> <li>- taking out common factors</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> <li>- simplifying expressions involving sums, products and powers, including the laws of indices.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ Understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size.</li> </ul>	<p>original value problems, and simple interest including in financial mathematics</p>
6	<p><b>Angles and lines</b></p> <ul style="list-style-type: none"> <li>✓ Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries; use the standard conventions for labelling and referring to the sides and angles of triangles;</li> </ul>	<p><b>Theoretical probability</b></p> <ul style="list-style-type: none"> <li>✓ Relate relative expected frequencies to theoretical probability, using appropriate language and the 0 - 1 probability scale.</li> <li>✓ Understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size.</li> </ul>	<p><b>Factors and multiples</b></p> <ul style="list-style-type: none"> <li>✓ Use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem.</li> </ul>

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	<p><b>draw diagrams from written description.</b></p> <ul style="list-style-type: none"><li>✓ <b>Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles; understand and use alternate and corresponding angles on parallel lines; derive and use the sum of angles in a triangle</b> (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons).</li><li>✓ <b>Derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language.</b> Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and <b>use of bearings.</b></li></ul> <p><b>Triangles and quadrilaterals</b></p> <ul style="list-style-type: none"><li>✓ <b>Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles; understand and use alternate and corresponding angles on parallel</b></li></ul>	<p><b>Mutually exclusive events</b></p> <ul style="list-style-type: none"><li>✓ <b>Apply the property that the probabilities of an exhaustive set of outcomes sum to one; apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one.</b></li></ul>	
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	<ul style="list-style-type: none"><li>✓ <b>lines</b>; derive and <b>use the sum of angles in a triangle</b> (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons).</li> <li>✓ Derive and <b>apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language.</b></li> <li>✓ <b>Apply angle facts</b>, triangle congruence, similarity and properties of quadrilaterals <b>to conjecture and derive results about angles and sides</b>, including Pythagoras' Theorem and the fact that the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs.</li> <li>✓ <b>Solve geometrical problems on coordinate axes.</b></li></ul>		
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Week	Autumn Term 2	Spring Term 2	Summer Term 2
1	<p><b>Congruence and similarity</b></p> <ul style="list-style-type: none"> <li>✓ Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries; use the standard conventions for labelling and referring to the sides and angles of triangles; draw diagrams from written description.</li> <li>✓ Derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures using appropriate language.</li> <li>✓ Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS). Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides, including Pythagoras' Theorem and the fact that the base angles of an isosceles triangle are equal, and use</li> </ul>	<p><b>Estimation and approximation</b></p> <ul style="list-style-type: none"> <li>✓ Estimate answers; check calculations using approximation and estimation, including answers obtained using technology.</li> <li>✓ Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) use inequality notation to specify simple error intervals due to truncation or rounding.</li> </ul> <p><b>Calculator methods</b></p> <ul style="list-style-type: none"> <li>✓ Estimate answers; check calculations using approximation and estimation, including answers obtained using technology.</li> <li>✓ Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) use inequality notation to specify simple error intervals due to truncation or rounding.</li> </ul>	<p><b>Prime factor decomposition</b></p> <ul style="list-style-type: none"> <li>✓ Use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem.</li> <li>✓ Apply systematic listing strategies.</li> </ul>

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	<p><b>known results to obtain simple proofs.</b></p> <p>✓ <b>Apply the concepts of congruence and similarity, including the relationships between lengths, in similar figures.</b></p> <p><b>Polygon angles</b></p> <p>✓ <b>Use conventional terms and notations:</b> points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, <b>polygons, regular polygons and polygons with reflection and/or rotation symmetries;</b> use the standard conventions for labelling and referring to the sides and angles of triangles; draw diagrams from written description.</p> <p>Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles; understand and use alternate and corresponding angles on parallel lines; derive and <b>use the sum of angles in a triangle (e.g. to deduce and use the angle sum in any polygon, and to derive properties of regular polygons).</b></p>		
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2	<p><b>Sampling</b></p> <ul style="list-style-type: none"> <li>✓ Infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling.</li> <li>✓ Apply statistics to describe a population.</li> </ul> <p><b>Organising data</b></p> <ul style="list-style-type: none"> <li>✓ Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use.</li> </ul> <p><b>Representing data 1</b></p> <ul style="list-style-type: none"> <li>✓ Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use. Interpret, analyse and compare the distributions of data sets from</li> </ul>	<p><b>Measures and accuracy</b></p> <ul style="list-style-type: none"> <li>✓ Use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate.</li> <li>✓ Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) use inequality notation to specify simple error intervals due to truncation or rounding.</li> <li>✓ Apply and interpret limits of accuracy.</li> <li>✓ Change freely between related standard units (e.g. time, length, area, volume/capacity, mass) and compound units (e.g. speed, rates of pay, prices) in numerical and algebraic contexts.</li> <li>✓ Use compound units such as speed, rates of pay, unit pricing, density and pressure.</li> <li>✓ Use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money,</li> </ul>	<p><b>Powers and roots</b></p> <ul style="list-style-type: none"> <li>✓ Use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5.</li> </ul>
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	<p><b>univariate empirical distributions through:</b></p> <ul style="list-style-type: none"> <li>- appropriate graphical representation involving discrete, continuous and grouped data</li> <li>- appropriate measures of central tendency (median, mean, mode and modal class) and spread (range, including consideration of outliers).</li> </ul>	<p>etc).</p>	
3	<p><b>Representing data 2</b></p> <ul style="list-style-type: none"> <li>✓ Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use. Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through:           <ul style="list-style-type: none"> <li>- appropriate graphical representation involving discrete, continuous and grouped data</li> <li>- appropriate measures of central tendency (median, mean, mode and modal class) and spread (range, including consideration of outliers).</li> </ul> </li> </ul>	<p><b>Solving linear equations 1</b></p> <ul style="list-style-type: none"> <li>✓ Solve linear equations in one unknown algebraically (including those with the unknown on both sides of the equation); find approximate solutions using a graph.</li> <li>✓ Translate simple situations or procedures into algebraic expressions or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.</li> </ul> <p><b>Solving linear equations 2</b></p> <ul style="list-style-type: none"> <li>✓ Solve linear equations in one unknown algebraically (including those with the unknown on both sides</li> </ul>	<p>Assessment week</p>

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	<p><b>Averages and spread 1</b></p> <ul style="list-style-type: none"> <li>✓ Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through:           <ul style="list-style-type: none"> <li>- appropriate graphical representation involving discrete, continuous and grouped data</li> <li>- appropriate measures of central tendency (median, mean, mode and modal class) and spread (range, including consideration of outliers).</li> </ul> </li> </ul>	<p>of the equation); find approximate solutions using a graph.</p> <ul style="list-style-type: none"> <li>✓ Translate simple situations or procedures into algebraic expressions or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.</li> </ul>	
4	<p><b>Decimals and fractions</b></p> <ul style="list-style-type: none"> <li>✓ Order positive and negative integers, decimals and fractions; use the symbols =, ≠, &lt;, &gt;, ≤, ≥.</li> <li>✓ Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7/2 or 0.375 and 3/8 ).</li> <li>✓ Use and interpret algebraic notation, including:           <ul style="list-style-type: none"> <li>- <math>ab</math> in place of <math>a \times b</math></li> <li>- <math>3y</math> in place of <math>y + y + y</math> and <math>3 \times y</math></li> <li>- <math>a^2</math> in place of <math>a \times a</math>, <math>a^3</math> in place of <math>a \times a \times a</math>, <math>a^2b</math> in place of <math>a \times a \times b</math></li> <li>- <math>a/b</math> in place of <math>a \div b</math></li> </ul> </li> </ul>	<p><b>Quadratic equations</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors.</li> <li>✓ Identify and interpret roots, intercepts, turning points of quadratic functions graphically; deduce roots algebraically.</li> <li>✓ Solve quadratic equations algebraically by factorising; find approximate solutions using a graph.</li> <li>✓ Translate simple situations or procedures into algebraic expressions</li> </ul>	<p>End of year show</p>

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	<ul style="list-style-type: none"> <li>- coefficients written as fractions rather than as decimals</li> <li>- brackets</li> </ul> <p>✓ Express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1.</p>	<p>or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.</p>	
5	<p><b>Fractions and percentages</b></p> <ul style="list-style-type: none"> <li>✓ Recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals.</li> <li>✓ Interpret fractions and percentages as operators.</li> </ul> <p><b>Calculations with fractions</b></p> <ul style="list-style-type: none"> <li>✓ Apply the four operations +, −, ×, ÷, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and</li> </ul>	<p><b>Simultaneous equations</b></p> <ul style="list-style-type: none"> <li>✓ Solve two simultaneous equations in two variables (linear/linear) algebraically; find approximate solutions using a graph.</li> <li>✓ Translate simple situations or procedures into algebraic expressions or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.</li> </ul> <p><b>Inequalities</b></p> <ul style="list-style-type: none"> <li>✓ Understand and use the concepts and vocabulary of expressions, equations, formulae, inequalities, terms, factors and identities.</li> <li>✓ Solve linear inequalities in one variable; represent the solution set on</li> </ul>	-----

GCSE Objective statement:

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	<p>when calculating with decimals).</p> <ul style="list-style-type: none"> <li>✓ Recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals.</li> </ul>	<p>a number line.</p>	
6	<p><b>Fractions, decimals and percentages</b></p> <ul style="list-style-type: none"> <li>✓ Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7/2 or 0.375 and 3/8 ).</li> <li>✓ Define percentage as 'number of parts per hundred'; interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively; express one quantity as a percentage of another; compare two quantities using percentages; work with percentages greater than 100%; solve problems involving percentage change, including percentage increase/decrease and original value problems, and simple interest including in financial mathematics.</li> </ul>	<p><b>Lifeskills 2</b></p> <p><b>Starting the business</b></p>	<p>-----</p>

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North London Grammar School  
KS4 Medium Term Overview  
2014-2015

Subject: Mathematics

7	<b>Lifeskills 1</b>  <b>The business plan</b>	-----	-----
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