

<u>Timeline</u>	<u>Topic</u>	<u>Key concepts and knowledge</u>	<u>Skills development</u>	<u>Rationale</u>
Half Term 1	Algebra – Algebraic Manipulation	Factorising an expressions using a common factor. Expanding a pair of binomials. Factorising a quadratic when a = 1 and when a is greater than 1. Expanding three binomials.	Students will be consolidating their learning from the previous 4 years. They will be checking that they can apply their knowledge to exam questions and work through problems in a structured and logical manner.	Students have worked through their mathematical journey from year 7. Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.
	Geometry – Pythagoras and Trigonometry	Calculating a missing side in a right-angled triangle using Pythagoras’ theorem. Calculating a missing side or angle in a right angled triangle using trigonometry. Using the Sine and Cosine rules for non-right-angled triangles.	Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap. Students will be able to use the most efficient method of calculation to solve a problem.	
	Probability	Using product rule for outcomes. Drawing and interpreting frequency trees. Understanding and calculating relative frequency. Using and calculating probabilities from a Venn diagram. Using tree diagrams and calculating probabilities.	Students will be developing their resilience and exam technique as they look at the more challenging questions.	
	Geometry – Angles	Understanding and using the properties of angles in polygons. Understand and use bearings. Use circle theorems to find missing angles.		
	Algebra – Solving Linear Equations	Solving linear equations with one or two steps, which can also include brackets. Solving equations with unknowns on both sides. Solving inequalities.		

	<p>Number – Rounding and Limits</p>	<p>Solving equations with fractions. Describe and identify regions described using inequalities.</p> <p>Estimate a calculation by rounding to a significant figure. Write the error interval for a number. Calculate with bounds.</p>		
Half Term 2	<p>Algebra – Formulae</p> <p>Number – Factors, Powers and Roots</p> <p>Algebra – Simultaneous Equations</p> <p>Handling Data</p>	<p>Substituting into formulae. Deriving formulae. Rearranging formulae. Modelling using formulae. Setting up and using formulae based on proportion.</p> <p>Understand and use negative and fractional indices. Use and calculate in standard form. Use and manipulate surds.</p> <p>Solve simultaneous equations using elimination (with and without scaling). Solve simultaneous equations using substitution. Solve simultaneous equations graphically.</p> <p>Averages and range from a table. Drawing and analysing scatter graphs. Drawing and analysing a cumulative frequency graph. Drawing and analysing a boxplot. Calculating quartiles and the interquartile range. Drawing and analysing histograms.</p>	<p>Students will be consolidating their learning from the previous 4 years. They will be checking that they can apply their knowledge to exam questions and work through problems in a structured and logical manner.</p> <p>Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap.</p> <p>Students will be able to use the most efficient method of calculation to solve a problem.</p> <p>Students will be developing their resilience and exam technique as they look at the more challenging questions.</p>	<p>Students have worked through their mathematical journey from year 7. Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.</p>

<p>Half Term 3</p>	<p>Geometry – Transformations and Vectors</p> <p>Algebra – Linear Functions</p> <p>Geometry – Measures</p> <p>Number – Percentages</p> <p>Algebra – Solving Quadratic Equations</p>	<p>Perform and recognise translations on a coordinate axes. Perform and recognise enlargements with and without a centre of enlargement. Perform enlargements with fractional and negative scale factors. Understand and recognise invariance. Work with similar shapes. Understand and use the properties of congruent triangles.</p> <p>Drawing and interpreting real life graphs. Plotting lines of the form $ax + by = c$. Understand the properties of parallel lines. Understand the links between lines that are perpendicular.</p> <p>Convert between different metric units. Convert between metric units of area and volume. Understand and use compound units including density and pressure.</p> <p>Calculating simple and compound interest. Calculate the original amount after a given percentage increase or decrease.</p> <p>Build on student knowledge of solving linear equations. Solving quadratic equations where $a=1$ or is greater than 1. Use the quadratic formula to solve quadratic equations. Complete the square.</p>	<p>Students will be consolidating their learning from the previous 4 years. They will be checking that they can apply their knowledge to exam questions and work through problems in a structured and logical manner.</p> <p>Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap.</p> <p>Students will be able to use the most efficient method of calculation to solve a problem.</p> <p>Students will be developing their resilience and exam technique as they look at the more challenging questions.</p>	<p>Students have worked through their mathematical journey from year 7. Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.</p>
<p>Half Term 4</p>	<p>Algebra – Non – Linear Functions</p>	<p>Plot and understand the properties of cubic graphs.</p>	<p>Students will be consolidating their learning from the previous 4 years. They will be checking that they can</p>	<p>Students have worked through their mathematical journey from year 7.</p>

	Targeted Revision	<p>Plot and understand the properties of reciprocal graphs. Plot and understand the properties of exponential graphs. Plot and understand the properties of trigonometric graphs. Plot and understand the properties of velocity time graphs.</p> <p>Students will be taught topics that have been identified through target homework's and pre-public examinations. Students attend revision sessions as well as maths lessons.</p>	<p>apply their knowledge to exam questions and work through problems in a structured and logical manner.</p> <p>Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap.</p> <p>Students will be able to use the most efficient method of calculation to solve a problem.</p> <p>Students will be developing their resilience and exam technique as they look at the more challenging questions.</p>	<p>Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.</p>
Half Term 5	Targeted Revision	<p>Students will be taught topics that have been identified through target homework's and pre-public examinations. Students attend revision sessions as well as maths lessons.</p>	<p>Students will be consolidating their learning from the previous 4 years. They will be checking that they can apply their knowledge to exam questions and work through problems in a structured and logical manner.</p> <p>Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap.</p> <p>Students will be able to use the most efficient method of calculation to solve a problem.</p> <p>Students will be developing their resilience and exam technique as they look at the more challenging questions.</p>	<p>Students have worked through their mathematical journey from year 7. Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.</p>
Half Term 6	Targeted Revision	<p>Students will be taught topics that have been identified through target homework's and pre-public examinations. Students attend revision sessions as well as maths lessons.</p>	<p>Students will be consolidating their learning from the previous 4 years. They will be checking that they can apply their knowledge to exam questions and work through problems in a structured and logical manner.</p> <p>Students will be able to identify the areas that they still need to develop and, for any classes where gaps are identified, this time will be given to bridge the gap.</p>	<p>Students have worked through their mathematical journey from year 7. Most of the knowledge they will have acquired but, to ensure that they are fluently able to apply this, revision time and targeted topic work will support this. For some topics, there is little new content in year 11 which is why we can focus on the exam technique.</p>

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