

## Year 12 Mathematics - Core

### Learning Programme 5

The LORIC skill focus for his LP is: COMMUNICATION. The Moral Virtues focus for this LP are: COURAGE and HUMILITY. Courage - Acting with bravery and overcoming fears. Humility - Having a modest view of oneself. <b>What will I be learning about in this Learning Programme?</b> In LP5 I will be learning about integration, proof, functions and algebraic fractions.  <b>Where have I seen this learning before?</b> GCSE: functions, algebraic fractions  <b>What could I use it for?</b> The knowledge and skills I will learn in this learning programme will allow me to solve advanced algebraic problems. This knowledge will later be applied to advanced calculus.			<b>Literacy:</b> <ul style="list-style-type: none"><li>Capital letters must be used at the start of sentences and for the first letter of proper nouns</li><li>Full stops must be used at the end of a sentence</li><li>Question marks must be used at the end of a question</li><li>Apostrophes should only be used for possession or omission</li><li>Days of the week and months must be spelled correctly</li><li>Key words must be spelled correctly</li></ul>
<b>In LP5.1, I will know:</b>	<b>12/05/25 - (WK 1)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to find the area under a curve with integration; how to find the area under the x-axis curve with integration; how to find the area between curves and lines with integration.		Integral	Integration
<b>In LP5.2, I will know:</b>	<b>19/05/25 - (WK 2)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to use and represent vectors in two dimensions; how to calculate the magnitude and direction of vectors.		Magnitude	Vectors 1
<b>LP5 RLW, I will:</b> <b>02/06/25 - (WK 1)</b>			
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.			Revision
<b>In LP5.3, I will know:</b>	<b>09/05/25 - (WK 2)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to solve problems with position vectors; how to solve geometrical problems with vectors.		Parallel	Vectors 2
Extended Task.			
<b>In LP5.4, I will know:</b>	<b>16/06/25 - (WK 1)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to form an algebraic proof by contradiction; how to manipulate algebraic fractions.		Contradiction	Algebraic methods
<b>In LP5.5, I will know:</b>	<b>23/06/25 - (WK 2)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to use partial fractions including with repeated factors; how to solve algebraic division problems.		Factor	Partial Fractions
<b>In LP5.6, I will know:</b>	<b>30/06/25 - (WK 1)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to use the modulus function; how to represent functions including using mappings.		Modulus	Functions 1
Extended Task.			
<b>In LP5.7, I will know:</b>	<b>07/06/25 - (WK 2)</b>	<b>Key Vocabulary</b>	<b>Homework</b>
how to solve composite function problems; how to find inverse functions.		Composite	Functions 2
<b>Resources to support learning:</b> Use your knowledge organisers to support with revision and recall. Here are some online resources to further support you in your Mathematics revision beyond the classroom. All weekly homework tasks are based on the exercises from the book. In addition to homework, Pupils should use questions not used in class plus the review exercises to help support learning from outside the classroom. Online Resource for homework and exam practice: <a href="https://www.drfrstmaths.com/">https://www.drfrstmaths.com/</a> . Topic based exam questions - <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a>			
<b>FFET Award Challenge for this Learning Programme:</b> Create a revision mind/map or poster of any of the Pure Maths chapters.			

PRT Task 1

PRT Task 2