

Year 12 Mathematics - Pure

Learning Programme 1

The LORIC skill focus for this LP is: LEADERSHIP 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. What will I be learning about in this Learning Programme? In LP1 I will be learning about expanding and factorising, indices, surds, solving quadratics, sketching functions, simultaneous equations, quadratic inequalities. Where have I seen this learning before? GCSE: expanding two brackets, collecting like terms, simplifying surds, rationalising the denominator, solve quadratics, plot quadratics, solve simultaneous equations, solve inequalities, linear inequalities What could I use it for? The knowledge and skills I will learn in this learning programme will allow me to build the algebraic manipulations foundations required to move onto more complex topics. These skills are used by accountants and auditors to balance accounts.		Literacy: - Capital letters must be used at the start of sentences and for the first letter of proper nouns - Full stops must be used at the end of a sentence - Question marks must be used at the end of a question - Apostrophes should only be used for possession or omission - Days of the week and months must be spelled correctly - Key words must be spelled correctly
In LP1.1, I will know: how to perform essential algebraic manipulations, such as expanding brackets, collecting like terms and factorising; how to develop my knowledge of the laws of indices for all rational exponents.	31/08/26 - (WK 1) Frayer Model Words Rational	Homework Algebraic Manipulation Worksheet
In LP1.2, I will know: how to use and manipulate surds, including rationalising the denominator; how to solve problems involving surds.	07/09/26 - (WK 2) Frayer Model Words Surd	Homework Surds Worksheet
In LP1.3, I will know: how to solve quadratic equations using factorisation; how to solve quadratic equations using the quadratic formula and completing the square; how to apply function notation when working with functions. Extended Task.	14/09/26 - (WK 1) Frayer Model Words Function	Homework Quadratic Functions Worksheet
In LP1.4, I will know: how to sketch the graph and find the turning point of a quadratic function; how to investigate the discriminant of a quadratic function; how to use and apply models that involve quadratic functions.	21/09/26 - (WK 2) Frayer Model Words Discriminant	Homework Functions Worksheet
In LP1.5, I will know: how to solve linear simultaneous equations using elimination; how to solve linear simultaneous equations using substitution; how to apply substitution to solve simultaneous equations where one equation is linear and the other quadratic.	28/09/26 - (WK 1) Frayer Model Words Quadratic	Homework Simultaneous Equations Worksheet
In LP1.6, I will know: how to interpret algebraic solutions of equations graphically; how to solve linear inequalities; how to solve quadratic inequalities. Extended Task.	05/10/26 - (WK 2) Frayer Model Words Inequality	Homework Inequalities Worksheet
In LP1.7, I will know: how to represent linear and quadratic inequalities graphically; how to interpret and sketch cubic and quartic graphs.	12/10/26 - (WK 1) Frayer Model Words Quartic	Homework Sketching Functions Worksheet
Resources to support learning: 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 area 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: https://www.drfrostmaths.com/. Topic based exam questions - https://www.mathsgenie.co.uk/		
FEET Award Challenge for this Learning Programme: Create a worded problem that would lead to simultaneous equations. Show how to form the equations and how to solve them.		

