

Welcome to A Level Mathematics and Further Mathematics

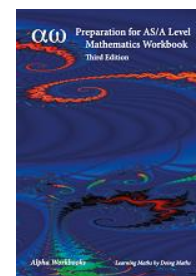
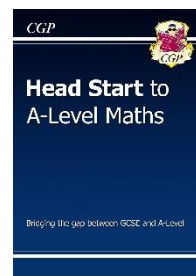
- **What you can read:**

New Head Start to A-Level Maths:

<https://www.cgpbooks.co.uk/secondary-books/as-and-a-level/maths/mbr71-new-head-start-to-a-level-maths>

Preparation for AS/A Level Maths:

<http://www.alphaworkbooks.co.uk/store/product/preparation-for-asa-level-maths>



Other textbooks or General Interest Mathematics Books: <https://mei.org.uk/books>

More maths for GCSE Mathematics students: <https://amsp.org.uk/students/gcse/more-maths>

Pearson (Edexcel) A Level Maths Specification: [Link](#)

- **What you can watch:**

HegartyMaths has been streaming A-Level prep sessions. You can find them here:

<https://www.youtube.com/hegartymaths>

'The Jump': a series of 30 videos designed to bridge the gap between GCSE and A-Level Maths. You can find the videos on YouTube by searching for 'the jump GCSE maths'.

Below are some of the topics that you will be learning when you join us at Burnley College. Here are some videos that link to areas of those topics:

- Laws of Indices: <https://www.drfrostmaths.com/videos.php?skid=193>
- Solving Quadratic Equations: <https://www.drfrostmaths.com/videos.php?skid=196>
- Coordinate Geometry: <https://www.drfrostmaths.com/videos.php?skid=219>
- Algebraic Fractions: <https://www.drfrostmaths.com/videos.php?skid=406>

- **What are some of the topics and skills that you will cover:**

Below are some of the topics and skills that we will cover in September and October.

Topics	Breakdown
Algebraic Techniques (mostly GCSE revision – you need to be highly proficient with these)	<ul style="list-style-type: none"> • Expanding brackets, simplifying expressions, collecting 'like terms' • Laws of indices • Surds • Rationalising the denominator
Quadratics (again – mostly GCSE revision so you need to be highly fluent in these skills)	<ul style="list-style-type: none"> • Factorising • Completing the square (CTS) • Solving quadratic equations

	<ul style="list-style-type: none"> • Max/Min values of quadratic functions • The discriminant • Sketching quadratic graphs • Modelling with quadratics
Equations and Inequalities (there is a fair bit of GCSE overlap here too)	<ul style="list-style-type: none"> • Linear simultaneous equations <ul style="list-style-type: none"> ○ Elimination method ○ Substitution method • Quadratic simultaneous equations • Simultaneous equations on graphs • Linear inequalities • Quadratic inequalities • Inequalities with x in the denominator • Inequalities on graphs
Graphs and Transformations (you will have met some of these in GCSE Maths)	<ul style="list-style-type: none"> • Sketching cubic graphs • Quartic graphs • Reciprocal graphs • Points of intersection • Transformations of graphs

- **Tasks you can do to prepare you:**

Task	Link to the course/specification
<p>Work through the exercises at https://www.deltamaths.co.uk/a-level-maths-preparation</p> <p>These are very important skills for beginning A-Level Maths.</p>	<p>These tasks cover a range of topics in the specification, such as:</p> <ul style="list-style-type: none"> • 2.1 Understand and use the laws of indices for all rational exponents. • 2.3 Solution of quadratic equations. • 2.4 Solve simultaneous equations in two variables by elimination and by substitution, including one linear and one quadratic equation. • 2.6 Manipulate polynomials algebraically, including expanding brackets, collecting like terms and factorisation.

- **Contact information**

If you have questions regarding this or any other A Level course at Burnley College, please contact alevels@burnley.ac.uk or call 01282 733373

We look forward to seeing you in September.