A Level Further Maths Induction Work

The A level Further Maths transition work is an extension of the maths transition work, and we would like for you to complete **two additional sections**. You should complete the following sections on Integral:

- Integers
- Coordinate Geometry
- The **going deeper** sections on Surds & Indices, Algebraic Manipulation, Integers, and Coordinate Geometry
- The **assessments** for all four of Surds & Indices, Algebraic Manipulation, Integers, and Coordinate Geometry

Please see the maths induction work document for details of the Integral website as well as your login details.

Please note that there is not an additional baseline assessment for Further Maths, but we expect a score of at least 80% to indicate suitability for the high standard of algebra required for the course.

Mathematical Enrichment

If you are looking to study Further Mathematics, it is likely that you are someone that is interested in exploring mathematics further. In addition to the books, podcasts, YouTube channels, and the documentary listed on the mathematics induction work, here are some further ideas for enrichment that we suggest you should engage with in preparation for the course.

Books

These book suggestions have a greater emphasis on mathematical problems to attempt in order to develop your problem solving skills. The texts on the maths induction work are mostly recreational mathematics texts.

Elastic Numbers Daniel Griller	**Geometry Snacks** Ed Southall	**Professor Stewart's Cabinet of Mathematical Curiosities** Ian Stewart
Mathematical Puzzles: A Connoisseur's Collection Peter Winkler	**How to solve it** George Polya	**Algorithmic Puzzles** Anany & Maria Levitin

Apps , websites, YouTube Channels

- **Brilliant** – this website / app has interesting puzzles that will develop your problem skills by thinking intuitively. Fantastic app, I really recommend downloading.
- **Nrich (**Secondary Students (maths.org)) – you will be able to access any of the secondary problems on this website. Very good for extending your thinking on GCSE topics.
- **Gresham lectures** (https://www.gresham.ac.uk/) – these are free public lectures on a range of topics—sort by whatever piques your interest (maybe maths?).
    - A Mathematician's View of Proof | Gresham College – this is a fantastic recent example of a mathematical lecture from Professor Sarah Hart.
- **Women in STEM (** Women in STEM **)** – great articles on careers by women in STEM
- **Tom Rocks Maths (** Tom Rocks Maths - YouTube **)** – if you haven't explored Tom Rocks Maths yet, he's a brilliant YouTuber who is a professor of mathematics at Oxford. He does some great stuff.