# **Induction Task**



# **Further Mathematics**

# **Essential Information**

Exam Board: Edexcel Specification Code: 9FM0/F0 Teachers: Mr Budd, Ms Lyall

# Reading

<u>Here is a link</u> to an extract from the book '1089 and all that', by the mathematician David Acheson. It gives a flavour of the power and creativity of mathematics beyond GCSE, and hints at some of the ideas you will meet in the course. We hope that it will whet your mathematical appetite!

## Task to be completed:

A Level Further Mathematics requires a high degree of intrinsic motivation and independent study. To help give you a flavour of this, we would like you to complete a piece of work on *complex numbers*.

- 1) Watch this video for an introduction to the concept.
- 2) Making notes as you go, watch the following videos:
  - Real and imaginary parts
  - Adding and subtracting complex numbers
  - Multiplying complex numbers
  - Dividing complex numbers

3) Check your understanding by completing the questions in <u>this folder</u>, using the answers to mark your work as you go. Make a note of anything you aren't sure about so that we can look at it in the first lesson back.

What you will need to submit:

Full and clear solutions to the questions in the document, clearly highlighting anything you struggled with. Please also bring the notes you made on the videos.

At A Level, the emphasis is much more on process and mathematical communication, so please rewrite any messy or unclear solutions as necessary. You will be doing lots of this during your A Level course, so there's no harm in getting started now!

## What else could I do to prepare?

### Read

- '1089 and all that', by David Acheson
- '17 Equations that Changed the World', by lan Stewart
- Any year one A Level Further Maths textbook (eg Core Pure One).

#### Watch

The Numberphile
Youtube channel

#### Listen

- The 'More or Less' podcast, with Tim Harford
- The 'In Our Time' podcast: eg the episodes on Euclid, or P vs NP, or e

### All tasks to be handed in during the first lesson of the subject in September