



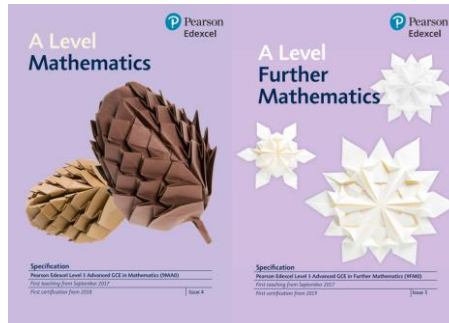
Maths Preparing for Post 16

A Level Specification

A Level Mathematics is comprised of two components; Pure and Applied.

[Link](#)

Further Maths has a mandatory module, Core Pure, and two optional modules. We have selected Decision and Further Statistics. [Link](#)



Digital Resource – [Dr Frost Maths](#)

Explore these topics:

Maths - Pure, Statistics and Mechanics
Further Mathematics - Further Pure, Decision and Further Statistics

Digital Resource – [Century Learning](#)

Complete the assignment “Mathematics – Bridge to A-Level”

Investigation

Click the link – [A difference of two fractions](#)

What is the probability that a pair of distinct fractions, chosen at random from these, have a difference that is also a unit fraction?

What can you say about the pairs of fractions that have a difference that is a unit fraction? Can you generalise your findings?

The fractions in this problem are all unit fractions. Can you find a pair of fractions, $a \div b$ and $c \div d$ where $a \neq 1$ and $c \neq 1$, which have a difference that is a unit fraction?

Can you expand on your answer to the previous question – under what conditions will a pair of fractions, $a \div b$ and $c \div d$ where $a \neq 1$ and $c \neq 1$, have a difference that is a unit fraction?

If you are considering studying Maths next year, then these are activities that you should seriously consider completing over the next few months to prepare yourself for the very large step up to Post 16 from GCSE.

The activities are divided into:

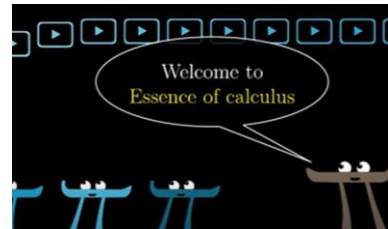
Essential - suggested as good preparation for the course.

Recommended - suggested to support the essential activities for the course

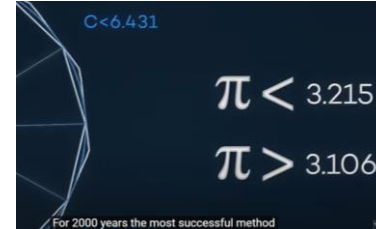
Optional - suggested to support wider learning around the subject; you are expected to do this independently at Post 16.

TV Shows to watch (The images are links)

[The essence of calculus](#)



[The discovery that transformed Pi](#)



Have a go at these

Underground mathematics – Divide and conquer

[Link](#)

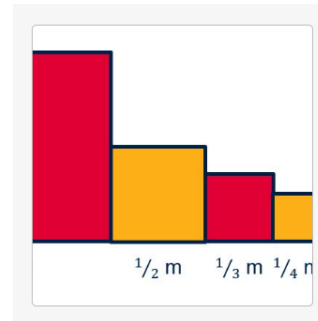
Underground mathematics – Distance between points

[Link](#)

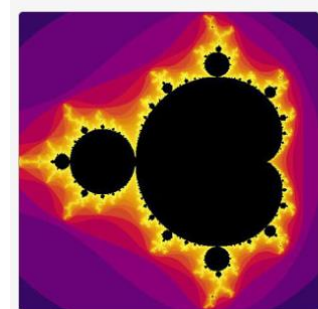
Desmos

[Link](#)

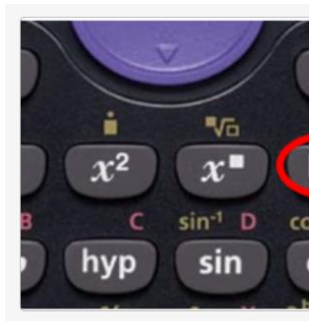
[Infinite Series](#)



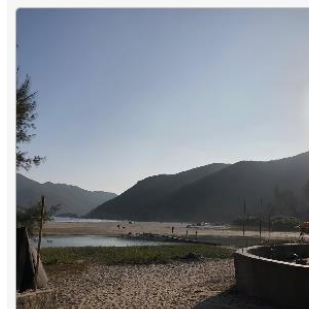
[Complex Numbers](#)



[Logarithms](#)

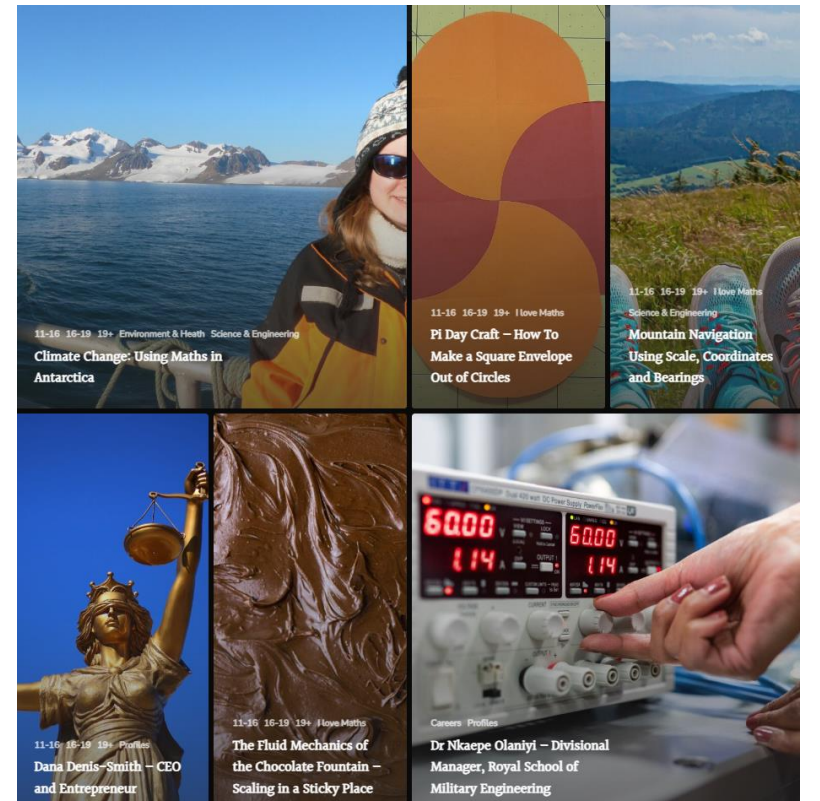


[Matrices](#)



Online Reading

Maths Careers – Explore the opportunities that exist within Maths – [Link](#)



Reading list:

The music of the primes – Marcus de Sautoy
The Simpsons and their mathematical ideas – Simon Singh
Things to make and do in the fourth dimension – Matt Parker