

# Mathematics



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Information for  
**students and parents**

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# MATHEMATICS

## WHY MATHEMATICS AT THE MAYNARD?

Mathematical skills are an essential part of the modern world. The Internet would not exist without the mathematical research done by the American military half a century ago. The public imagination was captured by the revolutionary work of British mathematicians at Bletchley Park in cryptography and code breaking. The development of computer hardware and software has depended on the work of mathematicians and the space programme would not have been able to put a man on the moon without the pure Mathematics of Leonard Euler 200 years earlier.

The Mathematics team at The Maynard know that confidence in using mathematical skills, together with analytical thinking and logical deduction, is needed today in many fields of work: mathematical skills which go beyond GCSE can greatly help your study in subjects such as Biology, Chemistry, Physics, Engineering, ICT, Psychology, Geography and Economics.

Our outstanding results are a reflection of our commitment and extreme dedication to teaching. Our students make the most of being taught in small groups and take full advantage of the resources, care and support available to them.

All our Mathematics Sixth Formers are encouraged to embrace opportunities to broaden their Mathematical understanding and experience outside lessons. They are strongly encouraged to read extensively around the subject and a selection of suitable books are offered throughout the course. We attend annually the one-day conference "Let Maths take you Further" with our Lower 6 students: this has proved popular and valuable in helping them make informed decisions and in considering a future career. All Mathematics students take part in the Senior Mathematics Challenge.

## THE MATHEMATICS A-LEVEL COURSES

A-level Mathematics has 100% prescribed content, with pure and applied in a 2:1 ratio; Mechanics and Statistics are part of the compulsory content.

The A level Mathematics qualification follows a three-paper model, with calculator usage allowed in all papers.

## A-LEVEL MATHEMATICS ASSESSMENT

**Paper 1** – Pure  
Mathematics 1  
(2 hours)

**Paper 2** – Pure  
Mathematics 2  
(2 hours)

**Paper 3** – Statistics and  
Mechanics  
(2 hours)

A-level Further Mathematics has a 50:50 split between compulsory and optional elements.

This course introduces key concepts and ideas central to Mathematics — e.g. complex numbers, hyperbolic functions, matrices — and allows you to study in more depth topics such as differential equations, series and calculus techniques whilst gaining further insight into the applied side of Mathematics.

The A-level Further Mathematics qualification follows a four-paper model.

## A-LEVEL FURTHER MATHEMATICS ASSESSMENT

**Paper 1** – Further  
Pure Mathematics 1  
(1.5 hours)

**Paper 2** – Further  
Pure Mathematics  
2  
(1.5 hours)

**Paper 3** – Further  
Mathematics  
Option 1  
(1.5 hours)

**Paper 4** – Further  
Mathematics  
Option 2  
(1.5 hours)

It's hard work but help is always available ...

## MATHEMATICS MATTERS

If you look carefully, Mathematics is never out of the news for too long. Technological advances often rely on new Mathematics and our Sixth Formers are amazed to discover that very large prime numbers are the basis for encrypting information exchanged on the Internet.

We often use cuttings, articles and pieces of news to promote discussion and stimulate students' natural curiosity.

An exhibition in London by the artist Justin Mullins resulted in an interesting display which led us to debate the idea of beauty in Science and the notion of what can be aesthetically pleasing in Mathematics.



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