

# Mathematics

## at MSJ Sixth Form

**Advanced Mathematics and Further Mathematics are sought-after qualifications for entry to a wide variety of full-time courses in Higher Education. There are also many areas of employment that see A Level Mathematics as an important qualification and it is often a requirement for the vocational qualifications related to those areas.**

Mathematics demonstrates the ability to think clearly and logically and uses the skills of problem solving and devising strategies. If you enjoy the challenge of analysing a question, deciding what techniques to employ and then applying these to a problem, then you have the right background for Mathematics. In its own right, Mathematics is challenging and fun!

**TO PURSUE THE A LEVEL COURSE SUCCESSFULLY, PUPILS IDEALLY NEED A MINIMUM OF:**

GCSE Grade 7 for A Level Mathematics or GCSE Grade 9 for Further Mathematics

## WHAT DOES THE COURSE INVOLVE?

We offer two separate courses in Mathematics: **A Level Mathematics** and **A Level Mathematics with Further Mathematics (worth two A Levels)**. All three courses contain Pure Mathematics, Statistics and Mechanics.

When studying Pure Mathematics, you will be extending your knowledge of topics such as algebra, trigonometry and differentiation, as well as studying new topics such as integration.

Statistics is about analysing and summarising numerical data in order to arrive at conclusions about it. You will extend the range of probability problems that you started for GCSE, by using new mathematical techniques. In Mechanics you will learn how to describe the motion of objects and how they respond to forces acting upon them, from cars in the street to satellites revolving around a planet. You will learn about mathematical modelling, that is, turning a complicated physical problem into a simpler one which can be analysed and solved using mathematical methods.

Further Mathematics will also study Decision which examines how computer algorithms work and how to find optimal solutions to real life problems. This is an area of Mathematics you will not have studied before, which relates well to computer science and business.

## IS IT THE RIGHT COURSE FOR ME?

### What skills will I need?

You should be aiming for Grades 7, 8 or 9 in GCSE Mathematics. If you have the opportunity to study additional qualifications such as GCSE Further Mathematics, this is beneficial but such study is not essential. Strong algebra skills are a must, as is mastery of trigonometry.

### WITH WHICH OTHER SUBJECTS DOES IT WORK BEST?

Traditionally, Mathematics has often been paired with the Sciences, Psychology and Economics, but at MSJ it can be combined with any other subject. There are no boundaries to the choice of other subjects to study with Mathematics.

### WHAT ARE THE POSSIBLE CAREER PATHWAYS?

Higher Education courses or careers include Sciences, Economics, Business Studies, Medicine, Architecture, Geography, Sociology, Psychology, Engineering, Astronomy, Accountancy, Teaching, Environmental Studies, Computing, Information and Communication Technology and many more!

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### TWITTER

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### HEAD OF SUBJECT

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### EXAM BOARD

Edexcel

## HOW IS IT ASSESSED?

<b>A Level Mathematics (sat at the end of Y13):</b>	Papers 1 & 2 (2 hours each) Pure Mathematics Paper 3 (2 hours) Statistics and Mechanics
<b>A Level Mathematics with Further Mathematics:</b>	As A level Mathematics plus Papers 1 & 2 Further Core Mathematics and Papers 3 & 4 choosing two of Further Mechanics, Further Pure and Decision Mathematics.