

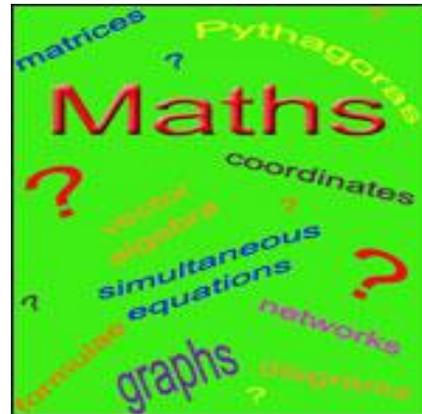
## **NEW SPECIFICATION A LEVEL MATHEMATICS EDEXCEL**

A Level Maths is widely recognised as a highly valued A Level and will open many 'doors' for you. Students who study Maths at this level are regarded as being the 'elite'.

**YOU MUST SECURE AT LEAST A GRADE 7 AT GCSE.**

**Any student with a grade 6 can still apply but will have to pass our Entrance Test on enrolment day in September.**

**A Level Maths is NOT an easy option** – it does require a lot of self- motivation, determination and self-study. We recommend that you do a minimum of 5 hours work outside the classroom each week. You will need to 'love a challenge' and be willing to accept that a question has 'gone wrong' – and be prepared to have another attempt (and another and maybe even another). **Last year: A\* - B: 63%, A\* - E: 100%**



### **Year 1 (AS level) Mathematics**

#### **Paper 1: Pure Mathematics**

Written examination: 2 hours  
66.66% of the qualification  
100 marks

**Content overview:** Proof, Algebra and functions, Coordinate Geometry in the (x, y) plane, Sequences and Series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Vectors

#### **Paper 2: Statistics & Mechanics**

Written examination: 1 hour  
33.33% of the qualification  
50 marks

#### **Content overview**

##### **Section A: Statistics**

- Topic 1 – Statistical sampling
- Topic 2 – Data presentation and interpretation
- Topic 3 – Probability
- Topic 4 – Statistical distributions
- Topic 5 – Statistical hypothesis testing

##### **Section B: Mechanics**

- Topic 6 – Quantities and units in mechanics
- Topic 7 – Kinematics
- Topic 8 – Forces and Newton's laws

## Year 2 (A2 level) Mathematics

### **Paper 1: Pure Mathematics 1**

Written examination: 2 hours  
33.33% of the qualification 100 marks

AS level pure mathematics content – the same content as AS Paper 1 but tested at A level demand (Baseline)

### **Paper 2: Pure Mathematics 2**

Written examination: 2 hours  
33.33% of the qualification 100 marks

#### **Content overview**

- Topic 1 – Proof
- Topic 2 – Algebra and functions
- Topic 3 – Coordinate geometry in the (x,y) plane
- Topic 4 – Sequences and series
- Topic 5 – Trigonometry
- Topic 6 – Differentiation
- Topic 7 – Integration
- Topic 8 – Numerical methods

### **Paper 3: Statistics and Mechanics**

Written examination: 2 hours  
33.33% of the qualification  
100 marks

#### **Content overview**

##### **Section A: Statistics**

- Topic 1 – Statistical sampling
- Topic 2 – Data presentation and interpretation
- Topic 3 – Probability
- Topic 4 – Statistical distributions
- Topic 5 – Statistical hypothesis testing

##### **Section B: Mechanics**

- Topic 6 – Quantities and units in mechanics
- Topic 7 – Kinematics
- Topic 8 – Forces and Newton's laws
- Topic 9 – Moments

## A level grades and Total actual points

Students	A*	A	B	C	D	E	U	X	Q	A*→E%	A*→C%	A*→B%	Avg GCSE	Avg QCA
32	2	12	7	8	2	1	0	0	0	100.0%	90.6%	65.6%	6.94	51.67
Pts	×140	×120	×100	×80	×60	×40	×0	×0	×0	Total actual = 3,220				
Act pts	280	1,440	700	640	120	40	0	0	0					

$$\text{Subject VA score} = 1 + \frac{\text{Actual} - \text{Expected}}{\text{Students} \times 100} = \frac{3,220 - 3,420.80}{32 \times 100} + 1 = 0.94 \text{ grade 5}$$

### **Why should I study Maths at Cardinal Newman School?**

This is an excellent course to take for all future career intentions as you will be required to use logical thought and precise working. You will study three modules that build on the maths that you studied at GCSE. Two of the three modules consolidate and extend your use of algebra, whilst the third is Decision Mathematics.

A-Level in Mathematics is essential for a degree in mathematics, physics and engineering and recommended for certain computing courses. If you are considering a degree in the above subjects at a highly competitive university you are also strongly advised to study further mathematics to at least AS-level.

### **What will be expected of me?**

You will need to have a willingness to work hard both inside and outside the classroom. It's also essential that you attend all of the classes, be punctual and complete the work we set for you. All work is designed to help you to achieve your personal aspirations, and we will do all that we can to support and challenge you during your time with us.

### **What other subjects go well with Maths?**

Mathematics fits well with almost any combination of subjects and offers wide progression opportunities to university or careers, but is best taken with courses with a high mathematical content.

### **What activities will I do outside of the classroom?**

There is a high workload and you'll be expected to spend at least 4 hours per week on independent study but a teacher will always be available to give you extra help and support with your work, should you need it. You will get support from your tutor, who you will see once a week during tutorial time.

### **What have past students gone on to do?**

Maths students' progress onto a wide variety of degrees and careers. Last year 100% of students moved on to Higher Education.