

# Maths, Further Maths and Mathematical Studies

## Mathematics A Level

Maths A Level is widely seen as an indicator of good problem-solving skills. It is considered an advantage for the majority of University courses and is a requirement on some. For instance, if you are interested in studying Physics at University, Maths is a must. Research conducted shows that graduates with A-level Mathematics earned, on average, 10% more than those without, regardless of degree taken (and a person with a maths degree can expect to earn £220 000 more over their lifetime than a person whose education ceased at A level).

To study Maths at A level you must have achieved a good grade at the Higher level GCSE. We follow the MEI (Mathematics in Education and Industry) course with OCR for A-level Mathematics. The course consists of topics drawn from Pure Maths, Statistics and Mechanics.

Topics are whole class taught and we use a variety of online resources including Integral Maths, all of which are intended to assist with self-study. There are also multiple choice and chapter assessments for each topic and these form part of the compulsory self-study and home learning.

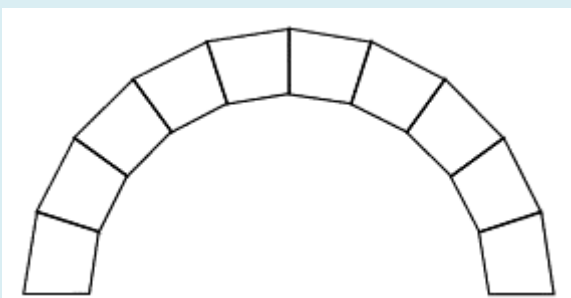
### Assessment of the course

The intention is that students complete the full A-level in Mathematics. For A-Level Mathematics there are three papers; Pure Mathematics and Mechanics, Pure Mathematics and Statistics and Pure Mathematics and Comprehension. All papers have to be sat together to certificate.

If, however, a student decides by the spring term of year 12 that they only wish to certificate in AS-Maths then students can sit two terminal examinations; Pure Mathematics with Mechanics and Pure Mathematics with Statistics, in the summer of Year 12 to achieve this.

### A Challenge

Ten stones, of identical shape and size, are used to make an arch, as shown in the diagram. Each stone has a cross-section in the shape of a trapezium with equal sides. What is the size of the smallest angles of the trapezium?



AS & A Level Maths Examination Board: OCR (MEI)

Mathematical Studies Examination Board: AQA

## Further Maths AS and A Level

If you are considering a Maths degree at University, studying Further Maths will not only help with entry but secure an invaluable knowledge base, confidence and understanding—some prestigious university courses will **only** accept students with Further Maths qualifications.

Birmingham, Derby, Exeter, Lancaster, Leeds, Loughborough, Manchester, Nottingham, Queens, York plus many more will give lower or flexible grade offers for students studying Further Maths at A level wishing to study maths or engineering courses

To study Further Maths, you need to have achieved a 7 or above at GCSE. Lessons will take place within the timetabled day and will not clash with other A-Levels.

In AS Further Maths students study content from another Pure unit and two optional applied units.

In A Level Mathematics students study content from Pure maths, Statistics or Mechanics and then two further applied units, the content of which we can be flexible with depending on students' future directions of study. All course content is assessed at the end of the course, whether certificating in AS-Level or A-Level Further Mathematics.

## Mathematical Studies – Level 3 Certificate

Mathematical Studies is a Level 3 qualification which is aimed to equip those studying other subjects where Mathematics is useful, such as Business studies, Geography, Biology, Computer Science and Psychology.

The core content of the course covers Analysis of Data, Maths for Personal Finance, Estimation and Critical Analysis of Data and Models. Assessment is in the form of 2 linear exams and there is no coursework for this course. To be accepted for this course, students must have achieved a grade 4 or above in their GCSE.

Mathematical studies lessons take place in the enrichment option block so that it can be taken alongside other courses for which continuing maths would be helpful.

For further information or advice please contact Mrs Myler, [nmyler@williamhoward.cumbria.sch.uk](mailto:nmyler@williamhoward.cumbria.sch.uk)