# **A-level**

# **Mathematics**

This subject is perfect for students who enjoy problem-solving and logical reasoning. It is particularly suited to those who enjoyed and excelled in GCSE Maths, as the course builds on foundational concepts and introduces more complex topics such as calculas and logarithms. The course also appeals to those who value logical structure and enjoy tackling challenging problems.



#### WHY STUDY?

- 1. It will enhance your logical thinking and problem-solving abilities, useful in both academic and everyday life.
- 2. A strong understanding of maths at A-level opens doors to further study in science, technology, engineering, and mathematics (STEM) fields.
- 3. Careers in finance, technology, engineering, and healthcare require a strong foundation in maths.



### COURSE SUMMARY

<u>Content overview for Pure Mathematics:</u> Proof, Algebra and functions, Coordinate geometry in the (x, y) plane, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Numerical methods & Vectors.

<u>Content overview for Statistics and Mechanics:</u> Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing, Quantities and units in mechanics, Kinematics, Forces and Newton's Laws & Moments.

## CAREERS

Studying maths helps you build strong problem-solving and analytical skills, which are useful in many careers like engineering, finance, and data science. Maths is the backbone of technology, supporting areas like coding, software development, and artificial intelligence. It also improves your logical thinking and attention to detail, which are important in business, healthcare, and research. Through maths mastery, you'll be better prepared to tackle real-world challenges and open doors to exciting and high-demand career opportunities that are typically very well paid.

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#### To succeed in this course, you need to be able to:

- Demonstrate mathematical curiosity
- Work independently, under teacher guidance.
- Stay motivated and be well organised