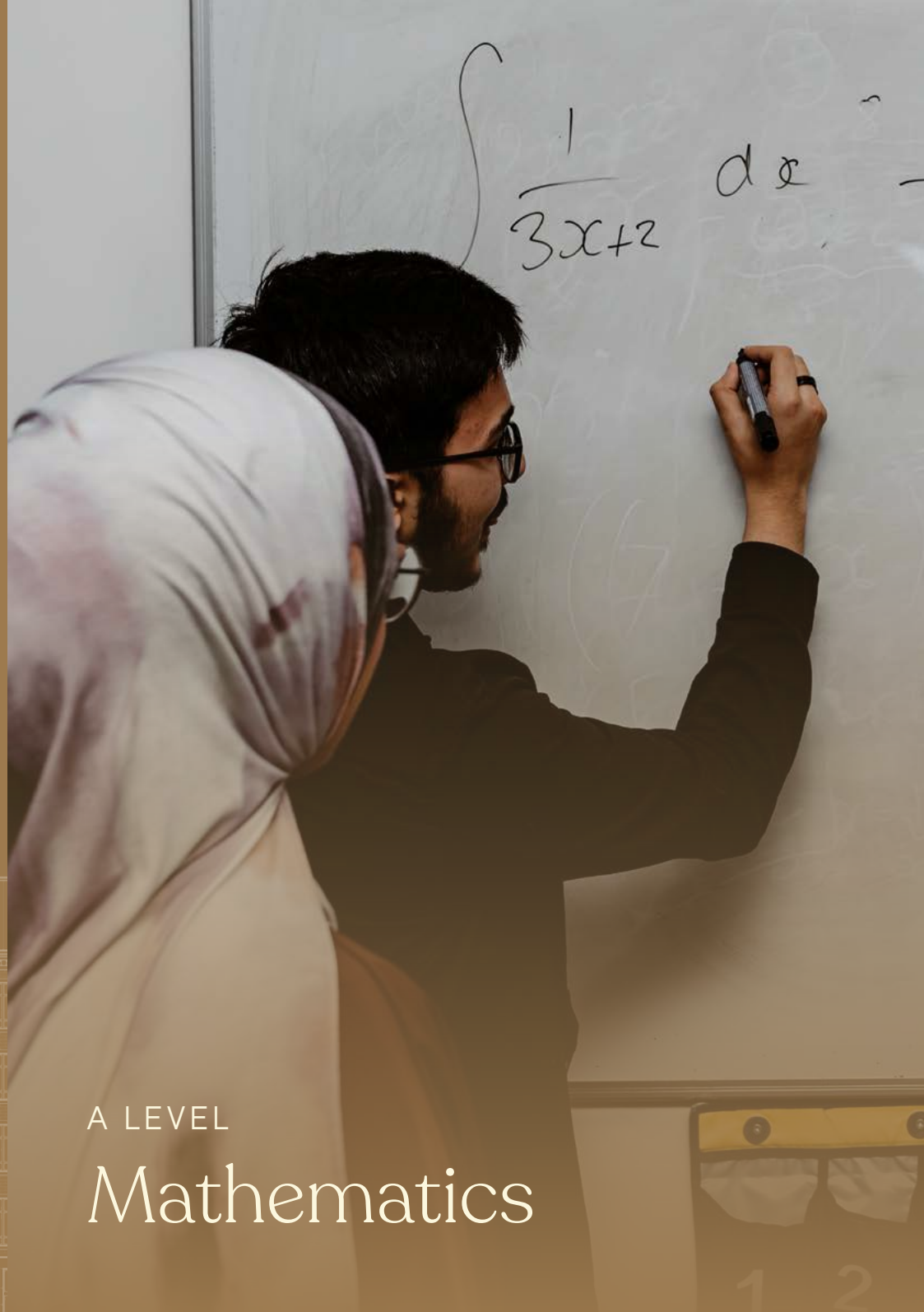
Integrity
Curiosity
Respect



DIXONS SIXTH FORM ACADEMY
DOUGLAS MILL,
BOWLING OLD LN,
BRADFORD
BD5 7JR

01274 089770
WWW.DIXONS6A.COM
@DIXONSSIXTH
INFO@DIXONS6A.COM



A LEVEL

Mathematics

WHAT IS MATHEMATICS?

A level Mathematics is often thought of as a subject of complicated calculations. However, calculations form only a small part of this rigorous discipline which requires clear thinking and the development of specific ideas into generalised solutions.

A level Mathematics gives you the opportunity to study topics such as geometry, calculus and trigonometry which are all areas of 'pure' mathematics and to use these ideas within the 'applied' topics such as mechanics and statistics.

Mechanics is strongly linked to physics and builds on ideas of motion and forces to work out how and why objects move. Statistics allows us to make sense of the complex and variable world around us via analytical methods, in order to draw reliable conclusions from sets of information.

WHY STUDENTS CHOOSE THIS COURSE

The step up from GCSE to A level Mathematics is huge and students who choose this subject must be prepared to work hard from the start. Most students who study A level Mathematics have really enjoyed studying the subject at GCSE and particularly enjoy the problem-solving aspect of the course.

Students who are successful on the course are not afraid of getting things wrong and relish the challenge of trying different methods in order to find the solution.

WHAT STUDENTS CAN DO WITH THIS COURSE

An A level in Mathematics is useful for a wide range of careers and university courses which do not have to be science-based. However, some degree courses will specifically require an A level in Mathematics e.g. Engineering or Economics. There may be some degree courses that you might think mathematics would be definitely needed for but in fact do not, e.g. Medicine.

HOW THIS COURSE IS ASSESSED

100% examination.
For A level there are three 2 hour examinations:

- **Pure Mathematics (01),**
- **Pure Mathematics (02),**
- **Mechanics and Statistics (03).**

Content from YR1 will be assessed within final examinations at the end of the second year.

ENTRY REQUIREMENTS

All our course entry requirements are detailed in the Entry Requirements document located in the admissions section of our website.

FURTHER READING

- Fermat's Last Theorem, Simon Singh (Fourth Estate, 2002). The story of Andrew Wiles' successful proof of a 350-year-old theorem, together with the stories of many people that were not successful along the way.
- Humble Pi: A Comedy of Maths Errors, Matt Parker (Allen Lane, 2019). What happens when maths goes wrong in the real world.
- The Simpsons and Their Mathematical Secrets, Simon Singh (Bloomsbury, 2013). "There is tons of maths hidden in the Simpsons", as Simon Singh says. The sheer love of mathematics by the producers of this popular series (mostly mathematicians) shines through.

What the course covers

All students will study Core mathematics, Statistics and Mechanics which will be examined at the end of the course.

Core content includes:

- Proof
- Algebra
- Functions
- Graphs
- Co-ordinate Geometry
- Sequences and Series
- Trigonometry, Exponentials and Logarithms
- Calculus
- Numerical Methods
- Vectors

Statistics content will include:

- Sampling Data Presentation and Interpretation
- Probability
- Hypothesis Testing

Much of the work in Statistics will involve the use of a large data set which students will be expected to be familiar with in the final examination.

Mechanics content includes:

- Models and Quantities
- Kinematics in 1 and 2 Dimensions
- Projectiles
- Forces
- Newton's laws of Motion and Rigid Bodies



FURTHER INFORMATION

The complete specification can be viewed at https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html