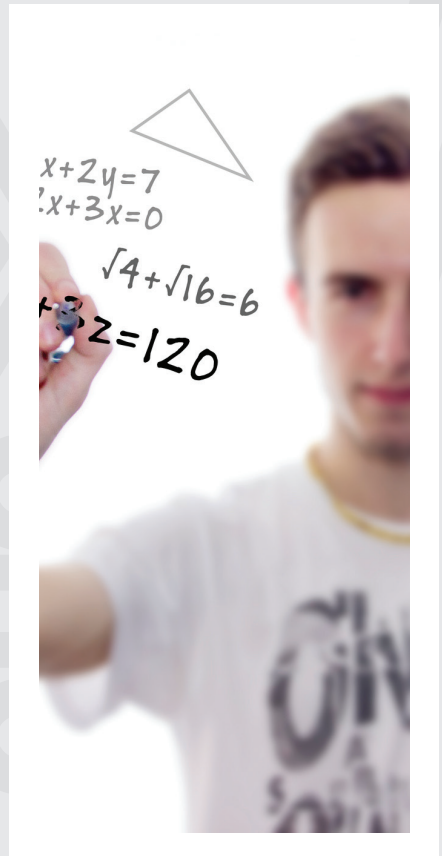# Abbey Gate College
Sixth Form

Mathematics

Why study Mathematics at A Level?

> *An A Level in Mathematics demonstrates a level of intelligence and sharpness of mind that will be attractive to both employers and universities.*
> *Mathematics is probably the most marketable A Level.*
>
> *Careers Service*

The subject is engaging and challenging and you will enjoy the sense of achievement of modelling and solving complex problems. Mathematics A Level is also an excellent support of subjects such as Geography, Physics, Biology, Business and Psychology.

$$x + 2y = 7$$
$$x + 3x = 0$$
$$\sqrt{4} + \sqrt{16} = 6$$
$$z = 120$$

Course Content

Lower Sixth:

Edexcel AS Level Mathematics provides a broad foundation in Pure Mathematics alongside the study of Applied Mathematics. The course consists of two branches: Pure and Applied.

• Pure - Algebra, Geometry, Functions, Trigonometry, Vectors, Differentiation and Integration.

Applied consists of two distinct parts

• Statistics - sampling, measures of central tendency, data representation, binomial distribution and hypothesis testing
• Mechanics - modelling motion, force and acceleration, variable acceleration, systems in equilibrium

Upper Sixth:

Edexcel A-Level Mathematics is a continuation of the work covered in Lower Sixth. Principles met are extended upon with new concepts introduced. A-Level Mathematics is assessed in its entirety at the end of Upper Sixth.

• Pure - further algebra, trigonometrical functions, advanced calculus techniques, sequences and series, numerical methods, parametric equations, 3-dimensional vectors.

Applied consists of two distinct parts

• Statistics - lines of regressions, conditional probability, normal distribution.
• Mechanics - moments, modelling friction, projectiles, vectors in kinematics and application of forces

SKILLS
obtained by studying
Mathematics:

A Level Mathematics encourages you to think logically and to evaluate alternative ways of solving problems; qualities that universities and employers always look for.

The mathematical and numerical skills gained will be transferable to most disciplines and will be highly sought after.