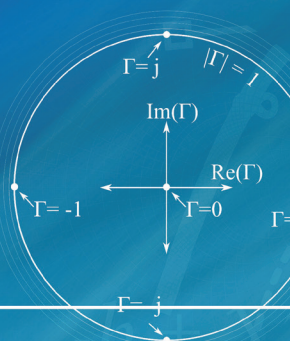
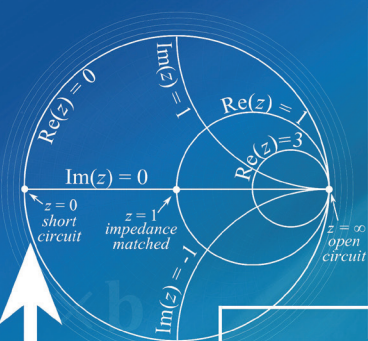




$$z = \frac{Z_L}{Z_0}$$

$$\Gamma = \frac{V_{reflected}}{V_{incident}}$$

$$\frac{a}{b+c} = a \div (b+c) \neq \frac{a}{b} + \frac{a}{c}$$



$$a \times b = w \quad P = 2l + 2w$$



MATHEMATICS

OCR A Level Mathematics

Entry requirements: Minimum Grade 6 GCSE Mathematics

This two-year A level course is examined terminally with three 2-hour written papers (equally weighted):

Paper 1: Pure Mathematics

Paper 2: Pure Mathematics and Statistics

Paper 3: Pure Mathematics and Mechanics

Teaching methods will be variable and will include traditional and investigational methods. Students will do both individual and group work. There is no coursework element but regular homework assignments will be set. The use of advanced graphical programmable calculators and computing facilities will be encouraged. All students will need a calculator that will allow them to access probabilities from the binomial and normal distributors.

Further Education or employment in the Science or Business world would benefit from a qualification in A Level Mathematics. A good grade in A Level Mathematics is needed for a degree in Mathematics. (Further Mathematics would be expected for Oxford or Cambridge.)

Curriculum Leader: Mr C Dawson

Pure Mathematics

- Indices and surds
- Quadratics and polynomials
- Coordinate geometry and Graphs
- Differentiation, including chain rule
- Integration, including trig functions and integration by parts and substitution
- Further Trigonometry
- Sequences and series
- Modulus function
- Exponentials and logarithms
- Numerical methods
- Algebra and graphs, including partial fractions and parametric equations
- First order differential equations
- Vectors
- Proof

Statistics

- Representation of data
- Sampling
- Probability
- Discrete random variables
- Binomial and normal distribution
- Hypothesis testing
- Bivariate data
- Analysis of the Large Data Set (provided by the exam board prior to the exam)

Mechanics

- Force as a vector
- Equilibrium of a particle
- Kinematics of motion in a straight line
- Forces and Newton's laws
- Non-uniform acceleration
- Projectiles
- Moments

Since grade A* was introduced in 2010,
44% of our Mathematics A Level
students have achieved an
A or A* grade in
Mathematics

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