

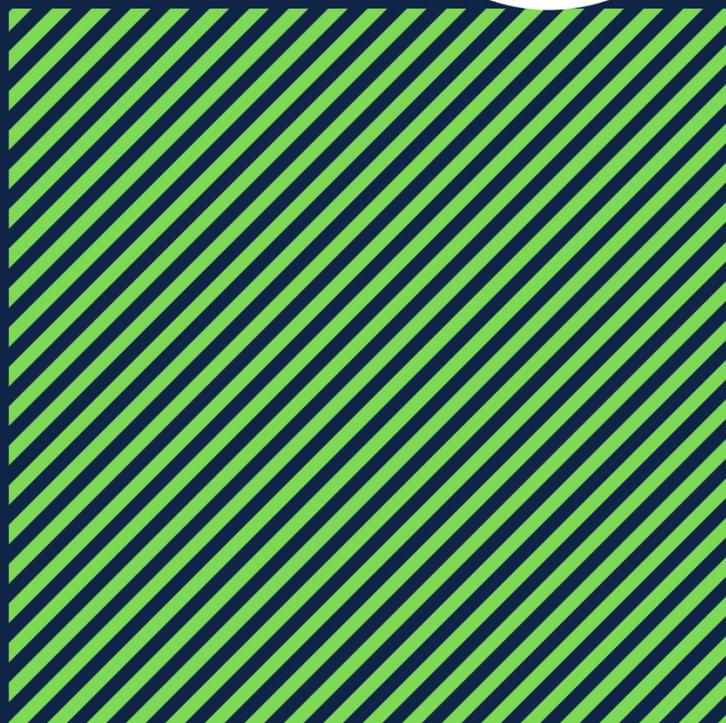
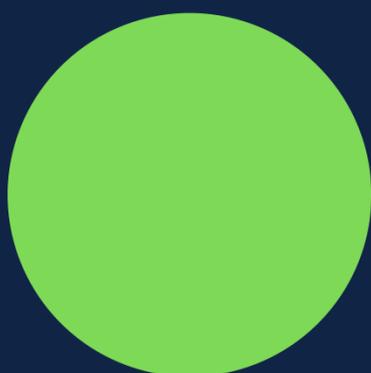
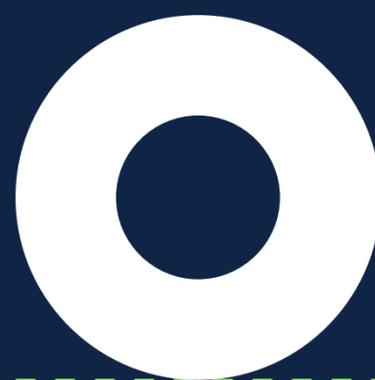


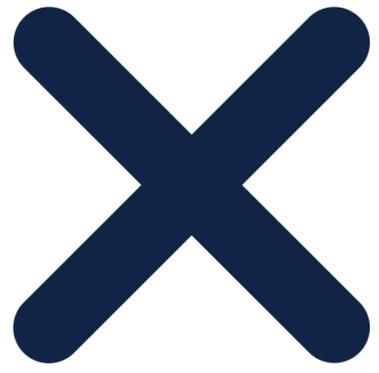
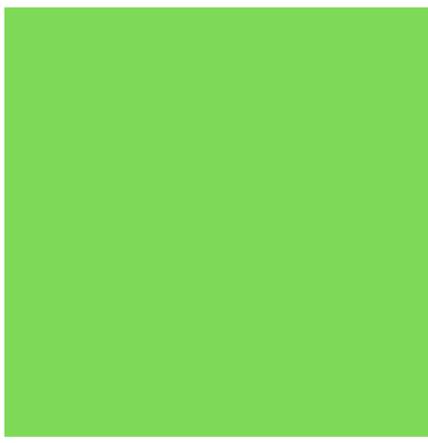
THE LADY  
ELIZABETH  
SCHOOL

# Further Maths



Mathematics is the door and the key  
to the sciences.





International AS/A Level FURTHER MATHS (IAS/IA2)

Examination Board: Edexcel

EXAM TIMING:

First Teaching 2018

First examination January 2019

WHAT DO I NEED TO BE ABLE TO STUDY THIS SUBJECT AT A-LEVEL?

To study Further Mathematics at AS/A Level, it is preferable to have at least a grade 8 (A) or equivalent at (I)GCSE level.

WHAT WILL I STUDY?

Pearson Edexcel International Advanced Subsidiary

The International Advanced Subsidiary in Mathematics qualification consists of three externally-examined units.

Compulsory units FP1 Optional units offered, FP2, FP3, M1, M2, S1, S2, D1

Pearson Edexcel International Advanced Level

Compulsory units: FP1 and either FP2 or FP3

OPTIONAL UNITS OFFERED; FP2, FP3, M1, M2, S1, S2, D1

Unit FP1: Further Pure Mathematics 1.

Complex numbers; roots of quadratic equations; numerical solution of equations; coordinate systems; matrix algebra; transformations using matrices; series; proof.

Unit FP2: Further Pure Mathematics 2.

Inequalities; series; further complex numbers; first order differential equations; second order differential equations; Maclaurin and Taylor series; Polar coordinates.

Unit FP3: Further Pure Mathematics 3.

Hyperbolic functions; further coordinate systems; differentiation; integration; vectors; further matrix algebra.

### Unit S1: Statistics 1.

Mathematical models in probability and statistics; representation and summary of data; probability; correlation and regression; discrete random variables; discrete distributions; the Normal distribution.

### Unit S2: Statistics 2.

The Binomial and Poisson distributions; continuous random variables; continuous distributions; samples; hypothesis tests.

### Unit D1: Decision Mathematics 1.

Algorithms; algorithms on graphs; algorithms on graphs II; critical path analysis; linear programming.

The certification of the qualification requires different contributing units. For example, students who are awarded certificates in both International Advanced Level Mathematics and International Advanced Level Further Mathematics must use unit results from 12 different units, i.e. once a unit result has been used to cash in for a qualification, it cannot be re-used to cash in for another qualification.

### IS THIS SUBJECT RIGHT FOR ME? WHAT WILL I GAIN FROM STUDYING THIS SUBJECT?

Students taking Further Mathematics overwhelmingly find it to be an enjoyable, rewarding, stimulating and empowering experience.

It is a challenging qualification, which both extends and deepens your knowledge and understanding beyond the standard A level Mathematics.

It makes the transition from sixth form to university courses which are mathematically rich that much easier as more of the first year course content will be familiar.

If you are planning to take a degree such as Engineering, Sciences, Computing, Finance/Economics, etc., or perhaps Mathematics itself, you will benefit enormously from taking Further Mathematics, at least to AS level. AS Further Mathematics introduces new topics such as matrices and complex numbers that are vital in many STEM degrees. Students who have studied Further Mathematics find the transition to such degrees far more straightforward. If you decide to study for a mathematically rich degree during year 12, but are not taking AS Further Mathematics it is often possible to start AS Further Mathematics alongside A level Mathematics in year 13.

If you are not planning to study for mathematically rich degrees but are keen on mathematics you will find Further Mathematics a very enjoyable course and having a Further Mathematics qualification identifies you as having excellent analytical skills, whatever area you are considering for a career.

### HOW WILL I BE ASSESSED?

From June 2020, all units will be assessed in January and June and just units, M1, M2, S1 and S2 in October, for the lifetime of the qualifications. Each unit is assessed by an examination of 1 hour 30 minutes. Calculators may be used in the examinations.

Useful websites:

<https://amsp.org.uk/>

<https://qualifications.pearson.com>

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