



General & Further Maths

ASSESSMENT

Satisfactory Completion

Demonstrated achievement of the set of outcomes specified for the unit.

LEVELS OF ACHIEVEMENT

Units 1 and 2

The school determines levels of achievement.

Units 3 and 4

School assessed coursework and an end-of-year examination.

- Unit 3 School-assessed Coursework: 20%

- Units 4 School-assessed Coursework: 14%

- End-of-year external examination: 60%

OVERVIEW

Mathematics is the study of function and pattern in number, space and structure and of randomness, variability and uncertainty in data and events. It is a framework for thinking and a means of symbolic communication that is powerful, logical, concise and precise. Students will apply techniques to solve problems in both practical and theoretical situations. The study is made up of four units. Unit 1 and 2 are General Mathematics and Unit 3 and 4 are Further Mathematics: General Mathematics

Unit 1 and Unit 2 Students will:

- Apply techniques involving the use of linear relations and equations and simultaneous linear equations in the solution problems in a variety of contexts.
- Use technology and by-hand techniques in the areas of practical arithmetic and financial arithmetic.
- Study matrices graphs and networks to model practical situations and solve related problems.
- Cover measurement and trigonometry in two- and three-dimensional situations involving length, area, volume and the applications of linear scale factors to measurement.

Further Mathematics

Unit 3 Students will:

- Investigate data distributions, including mean, median, mode and standard deviation. They will develop techniques required to take a 'fair' population sample.
- Investigate relationships between two variables using techniques including stem plots, box plots, linear correlation and Pearson's correlation coefficient.
- Apply linear modelling techniques to produce relationships between variables and linearising non-linear relationships.
- Create models to describe time series and carry out, and interpret seasonal variation in data.
- Use first order recurrence relations to solve a variety of problems including, depreciation of assets, calculation of perpetuities and annuities, compound interest investments and reducing balance loans.

Unit 4 Geometry and Measurement

Students will use measurement, trigonometry and geometry to formulate and solve problems involving angle, length, area and volume in two and three dimensions with respect to objects, the plane and the surface of the earth. Matrices Students will cover definitions of matrices, different types of matrices, matrix operations and the use of first order linear matrix recurrence relations to model a range of situations and solve related problems.