Core Mathematics

Subject Lead: Miss L Tompkinson
Email: ltompkinson4ars@nsix.org.uk

Key topics covered

Paper 1 Content

Autumn Term – Analysis of data: data, collecting and sampling data, representing data numerically and diagrammatically. Maths for personal finance: numerical calculations, percentages, interest rates, repayments and the cost of credit, graphical representation, taxation and solutions to financial problems. Estimation: the modelling cycle and Fermi estimation.

Paper 2 Content

Spring Term – Critical analysis of given data and models (including spreadsheet and tabular data: presenting logical and reasoned arguments in context, communicating mathematical approaches and solutions and analysing critically. Graphical Techniques: Graphical Methods: graphs of functions and intersection points. Rates of change: gradient, average speed and acceleration. Exponential Functions: the function a^x, the number *e*, exponential growth and decay.

Recommended Textbook and/or resources

AQA Level 3 Certificate Mathematical Studies (Core Maths) Student Book

Scientific Calculator any make e.g. Casio/Sharp etc.

All are available on Amazon, at supermarkets or a Sharp one can be purchased from the school via scopay.

The school also provides online access to the whole course using the Integral website https://integralmaths.org/

Why Study the Subject/What Students Like About It

Core Maths is aimed primarily at those students wishing to go on to study a career that involves some mathematical element, but for which studying A level mathematics may be a bridge to far. Although some units overlap with A level topics, Core Maths focusses on mathematical problem solving, which can be useful in a variety of careers from engineering to the financial sector. Maths plays a key part in a large number of roles. Core Maths develops students' ability to think critically, develops their financial understanding and gives them the opportunity to extend their knowledge post GCSE.

Students enjoy keeping their Maths skills fresh, the way it supports their other subjects and the ability to develop skills that will be really useful for study, work and life in general.

Opportunities outside the classroom

This course provides the students with the ability to calculate their net pay from a job (i.e. their earnings with income tax and National Insurance deducted). It also enables them to be able to calculate the cost of mortgages, student loans, APR and AER which are all useful financial skills for the future.

Future progression/career routes

Core Maths leads to degrees such as Biology, Geography, Psychology, and Business Studies. Some universities now provide alternative entry offers which reduce one of the entry grades required by students who, in addition to the course requirements, attain a grade B or above in a level 3 Maths qualification.

