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Year 9

# Department of Mathematics

# OVERVIEW

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## Skills Developed

- applications of geometry, shape, measure and construction; algebra; handling data; number rules;
- accuracy in calculations and constructions;
- problem-solving involving a logical, independent thought process;
- knowledge, intrigue and understanding in Mathematics in the world around us;
- using and reading statistics and understanding when they are misleading;
- work (career)-related Mathematics and Citizenship.

## Topics covered

**KS3 Maths** covers Years 7, 8 & 9 and has an emphasis on problem-solving. Many of the topics met during these years form the groundwork for their GCSE studies. The focus will be on building a deeper understanding of the Key Stage 3 topics through problem solving and collaborative work within lessons.

Pupils will further develop their knowledge of topics introduced in Y8, such as

- Algebraic manipulation
- Standard Form and Indices
- Equations of graphs
- Methods of analysing and displaying data
- calculating probabilities
- Angle rules
- Ratios and equation equivalence
- Basic trigonometry

They will also cover new topics such as

- Direct and inverse proportion
- Numerical accuracy (truncation and error intervals)
- Recurrence sequences
- Quadratic equations
- Arcs and sectors

They will also revise and build upon number work involving fractions, decimals, percentages, place value and rounding, negative number rules and order of operations.

## How we assess your daughter's progress

During Year 9, the focus is on topics as described in the topics covered and skills developed sections above. Across the year we have two class tests during the year and a final end-of-year exam. Your daughter will be given one week's notice and be provided with a revision list. One lesson will be set aside for revision before the test and appropriate homework

will be set to support your daughter's revision. These tests are marked by the teacher after which a lesson will be devoted to reviewing the test.

There are several Interleaved Skills Checks that are completed during the year.

Students will be given a weekly task on Sparx Maths.

### **How we support and develop your daughter**

#### **Support Material:**

Topic lists are available on SharePoint and all material relating to assessments and competitions is also added to this site during the year.

Every pupil has a full subscription to **Sparx Maths**; an online homework resource.

The Library has a large and varied section of mathematics related books for reading beyond the curriculum, if students wish.

At various points during the year maths help clubs are run. These will be advertised to the students within lessons.

### **How you can help your daughter**

Mathematics revision must involve a significant amount of "doing", as opposed to reading through notes. There are facts and formulae to be learnt, but methods are best learned through practice. After looking through each topic, take examples from a text book, exercise book, or revision guide and cover over the solution. If your daughter can work through to the correct answer, she and you will feel confident that she has understood.

Ensure that she learns by heart all the formulae she has met, for example for finding areas and trigonometry and understands how to apply them.

On the day of a test, please help your daughter to ensure she has all of the correct equipment, including protractor, compasses, ruler, pencil, rubber, pen and a scientific calculator.

There is a wealth of resources available online; a search for any topic will quickly return many suitable resources. Some suggested websites:

- Mr Barton Maths
- Teachit Maths
- Corbett Maths

A number of educational publishers, such as CGP, Pearsons and Collins also produce workbooks and revision guides.