**Information about the Maths GCSE Exam**

**Exam Board : Edexcel 1MA1**

There are 3 papers each 1 and 1/2 hours long (equally weighted). The first paper is a non-calculator paper and the second and third paper can use a calculator.

Please ensure your son brings the correct equipment to the exams. He needs:

Pen, Pencil, Ruler, Rubber, Sharpener, Angle Measurer, Compass and a Calculator

**Useful Maths Websites**

1. Corbettmaths - worksheets, past papers, helpful videos
2. Maths Genie - worksheets, past papers, helpful videos
3. Mymaths
4. Mathswatch
5. Hegarty Maths g
6. CIMT Plymouth maths

**Revision Classes in William Ellis School**

The maths department run numerous revision classes for Year 11 students.

* Saturday Classes (this will be running up to the end of paper 3)
* Monday after school (3:15 to 4:15)
* Morning Registration (8:30 to 8:50) – This occurs every day apart from Mondays
* Tuesday morning (8:00 to 8:50) – Exam practice
* Wednesday after school (3:20 to 4:30)

It is important your son comes to at least one of these sessions **regularly.**

**Tips for Revising Maths

1. Before you start revising, get all your notes sorted, and draw up a list of all the topics you need to cover**.

**2.** **Plan exactly when you are going to revise, and be strict with yourself**. Don’t just wake up one Saturday and say that you are going to be revising all day, because you probably won’t get a lot done. Say that you will work from 10 until 11, then take a half hour break, then work until 12.30, then have some nice lunch, then do another hour, then go for a walk, and so on.

**3.** **Don’t just read through the textbook**! The only way to revise maths is to **DO** maths. You will do much better spending 20 minutes doing maths questions than spending two hours just reading a textbook.

**4.** **Use the internet.** The internet is like having your own personal teacher who is available for you whenever you like.
-There are websites that can set you questions and mark them for you, take you through step-by-step how to tackle certain topics (see above)

**5.** **Don’t just practice the topics you can do**. If you are really good at fractions, for example, it is very tempting to keep doing lots of fractions questions and then smiling as you keep getting them right. But unfortunately the exam is probably not going to have more than one or two fractions questions. Although it can be painful, work your way through the topics that you struggle with, because it is much better to struggle on them at home, when you have time on your side and the answers available, than it is to struggle in the exam.

**6.** **Make sure you ask for help**. Again, once you are in the exam you are on your own, but during revision you are certainly not. If you are stuck on a topic or a question, then ask one of the people from your class, or your teacher, or someone at home, or look on the internet. Don’t suffer alone!

**7.** **Practice doing past papers under exam conditions**. Get someone to pick you a set of questions from your textbook, or get some from a maths website, and try doing them in silence, with no help, for a fixed amount of time. This will get you used to what it will be like in the exam, how fast you need to go, and is the best way of checking that you really understand a topic.

**TOPICS IN THE FOUNDATION COURSE**

|  |  |
| --- | --- |
| Unit  | Title |
| [1](#Unit1) | [a](#Unit1a) | Integers and place value |
| [b](#Unit1b) | Decimals  |
| [c](#Unit1c) | Indices, powers and roots |
| [d](#Unit1d) | Factors, multiples and primes |
| [2](#Unit2) | [a](#Unit2a) | Algebra: the basics |
| [b](#Unit2b) | Expressions and substitution into formulae |
| [3](#Unit3) | [a](#Unit3a) | Tables, charts and graphs |
| [b](#Unit3b) | Pie charts |
| [c](#Unit3c) | Scatter graphs |
| [4](#Unit4) | [a](#Unit4a) | Fractions, decimals and percentages |
| [b](#Unit4b) | Percentages |
| [5](#Unit5) | [a](#Unit5a) | Equations and inequalities |
| [b](#Unit5b) | Sequences  |
| [6](#Unit6) | [a](#Unit6a) | Properties of shapes, parallel lines and angle facts |
| [b](#Unit6b) | Interior and exterior angles of polygons |
| [7](#Unit7) |  | Statistics, sampling and the averages |
| [8](#Unit8) |  | Perimeter, area and volume |
| [9](#Unit9) | [a](#Unit9a) | Real-life graphs |
| [b](#Unit9b) | Straight-line graphs |
| [10](#Unit10) |  | Transformations  |
| [11](#Unit11) | [a](#Unit11a) | Ratio  |
| [b](#Unit11b) | Proportion |
| [12](#Unit12) |  | Right-angled triangles: Pythagoras and trigonometry |
| [13](#Unit13) |  | Probability |
| [14](#Unit14) |  | Multiplicative reasoning |
| [15](#Unit15) | [a](#Unit15a) | Plans and elevations |
| [b](#Unit15b) | Constructions, loci and bearings |
| [16](#Unit16) | [a](#Unit16a) | Quadratic equations: expanding and factorising  |
| [b](#Unit16b) | Quadratic equations: graphs  |
| [17](#Unit17) |  | Circles, cylinders, cones and spheres |
| [18](#Unit18) | [a](#Unit18a) | Fractions and reciprocals  |
| [b](#Unit18b) | Indices and standard form |
| [19](#Unit19) | [a](#Unit19a) | Similarity and congruence in 2D |
| [b](#Unit19b) | Vectors  |
| [20](#Unit20) |  | Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations |

**TOPICS IN THE HIGHER COURSE**

|  |  |
| --- | --- |
| Unit  | Title |
| [1](#HUnit1) | [a](#HUnit1a) | Calculations, checking and rounding |
| [b](#HUnit1b) | Indices, roots, reciprocals and hierarchy of operations |
| [c](#HUnit1c) | Factors, multiples, primes, standard form and surds |
| [2](#HUnit2) | [a](#HUnit2a) | Algebra: the basics, setting up, rearranging and solving equations |
| [b](#HUnit2b) | Sequences  |
| [3](#HUnit3) | [a](#HUnit3a) | Averages and range |
| [b](#HUnit3b) | Representing and interpreting data and scatter graphs |
| [4](#HUnit4) | [a](#HUnit4a) | Fractions and percentages |
| [b](#HUnit4b) | Ratio and proportion  |
| [5](#HUnit5) | [a](#HUnit5a) | Polygons, angles and parallel lines |
| [b](#HUnit5b) | Pythagoras’ Theorem and trigonometry |
| [6](#HUnit6) | [a](#HUnit6a) | Graphs: the basics and real-life graphs |
| [b](#HUnit6b) | Linear graphs and coordinate geometry |
| [c](#HUnit6c) | Quadratic, cubic and other graphs |
| [7](#HUnit7) | [a](#HUnit7a) | Perimeter, area and circles |
| [b](#HUnit7b) | 3D forms and volume, cylinders, cones and spheres |
| [c](#HUnit7c) | Accuracy and bounds |
| [8](#HUnit8) | [a](#HUnit8a) | Transformations |
| [b](#HUnit8b) | Constructions, loci and bearings |
| [9](#HUnit9) | [a](#HUnit9a) | Solving quadratic and simultaneous equations |
| [b](#HUnit9b) | Inequalities |
| [10](#HUnit10) |  | Probability |
| [11](#HUnit11) |  | Multiplicative reasoning  |
| [12](#HUnit12) |  | Similarity and congruence in 2D and 3D |
| [13](#HUnit13) | [a](#HUnit13a) | Graphs of trigonometric functions |
| [b](#HUnit13b) | Further trigonometry |
| [14](#HUnit14) | [a](#HUnit14a) | Collecting data |
| [b](#HUnit14b) | Cumulative frequency, box plots and histograms |
| [15](#HUnit15) |  | Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics |
| [16](#HUnit16) | [a](#HUnit16a) | Circle theorems  |
| [b](#HUnit16b) | Circle geometry |
| [17](#HUnit17) |  | Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof |
| [18](#HUnit18) |  | Vectors and geometric proof |
| [19](#HUnit19) | [a](#HUnit19a) | Reciprocal and exponential graphs; Gradient and area under graphs |
| [b](#HUnit19b) | Direct and inverse proportion |