

Instructions

Last minute revision? See the section at the end.

[Freemaths.uk](https://freemaths.uk) is designed for the latest GCSE and A Level exams. It is an innovative new approach developed by a highly qualified mathematician/computer scientist. It has three main sections:

- **Tests** - to check and develop underlying ability with mathematics (particularly algebra).
- **Books** - to record progress in covering the examination syllabus.
- **Past Papers** - to record practice leading up to examinations.

Using these three sections in combination students can rapidly raise their level of performance.

The following approach is recommended:

- 1) Use the **tests** at least once per week to keep basic skills strong.
- 2) If possible attempt some **book** work every day (if only a few minutes on 1 question).
- 3) Start working on **past papers** 3-6 months before taking your examination.

Ideally GCSE students should start working in this way in year 10 and A/AS level students from the beginning of their studies.

Tests

The automated tests are designed to check and develop underlying mathematical skills.

The site will automatically select topics and difficulty level, tuning this according to “smiley” feedback and whether answers are correct. Click on the keyboard symbol to enter your answer and smiley rate after each question to move on.

If your maths is strong the site will quickly adjust to ask more complex questions, and remain at that level for future visits.

You may also manually adjust both the topic and level of questions. If your maths is not yet strong make sure you fully understand precedence, negatives and fractions before moving on to more advanced topics (powers, algebra, surds & quadratics).

A corrections button will appear for anything you get wrong. Re-test yourself at least once a week, correcting any historic errors first. Try to keep your test page green. With several weeks practice you should find even the difficult questions become relatively quick and easy.

Books

Use the books section to record your progress on covering the examination syllabus.

The site does not hold the book content itself but provides a mechanism to record progress and convenient exercise by exercise links to online materials provided by the publishers (e.g. solution bank).

For GCSE the Letts [revision guide](#) (GCSE Maths in a week) is used as this is a well written book with quick test questions suitable for self-study. Try to attempt a few questions each day.

For A level the standard Edexcel text books are used. Beware if studying for a different examination board as there are some differences in content.

Try to attempt at least one mixed exercise question each day (from a topic of your choosing) and record how you did with it. Jump between topics so that you keep your knowledge refreshed.

Work in school will tend to be very topic based, systematically working through the exercises in the book. Record this progress as you go but make sure you complement this with the random selection of mixed exercise questions. This topic-jumping work is important to “connect” your mathematics knowledge and to develop problem solving skills. It will also minimise the need for revision as you will keep all your knowledge current. Do not be afraid to work ahead of your school. The books are well designed to teach yourself and you will build stronger skills by doing this. Many schools finish the syllabus far too late for sufficient past-paper practice.

As with tests the site will keep a record of everything you need to correct. Corrections are the most important part of developing mathematics. Mathematics is about being 100% correct so make sure you fully understand any errors and can correct them (exercise by exercise links are provided to solution bank). Try to keep everything green by regularly correcting.

Past Papers

Doing well in examinations relies on knowing the subject but is also about understanding “the language of the examiner”. The best way to learn the language of the examiner is past paper practice.

The past paper section provides links to the past paper and mark scheme resources provided directly by the examination boards (you can also get these direct or from other web sites).

What is unique about freemaths.uk is that it allows you to record your progress with past paper practice (in a similar way to recording progress with book work).

Corrections are by far the most important part of past paper practice. If you get a question wrong make sure you take the time to look at the mark scheme and thoroughly understand your error. Get help where you need it. Ask teachers, fellow students or contact freemaths.uk using the provided links to understand. Before going into an examination make sure all your past paper work is green.

Last Minute Revision

Ideally you will not be in this situation. Follow the approach above and your maths will already be strong leading up to the exams, however this section should help get the best result you can in limited time:

- 1) Revise actively

For GCSE the Letts [revision guide](#) (GCSE Maths in a week) is recommended. Read through the entire book as quickly but thoroughly as you can noting down sections you are less confident with.

Do as many of the test questions as you can, concentrating effort on less confident areas.

For A level quickly revise each topic from the standard text books (for each chapter, look through the chapter objectives, skim read the examples, and check the chapter review). Note down anything you are unsure of. Attempt “mixed exercise” questions for less confident areas and learn from any difficulties or mistakes.

2) Tests

Use the freemaths.uk automated tests to check your underlying knowledge. Make sure there are no weaknesses in negatives or fractions and then check you are confident in the more complex topics (powers, algebra, surds & quadratics). Re-try questions until you can confidently get them correct.

3) Past Papers

Attempt and record several past papers. The most important part of this is corrections. Make sure you understand any errors and learn from them. The more practice the better, but not at the expense of corrections. Learning from errors is the most important part of developing mathematical ability.

If you have done past papers in the past look back over the questions you got wrong and refresh your memory of how to do them. This is a very efficient way to revise and prepare for exams. Go into the exam with your memory of how to solve difficult problems refreshed, and your practice work “green”. You will be pleasantly surprised how familiar new exam questions look in comparison to historic ones.

Make a revision timetable for what you will do when. This should not take long to produce and will need to be refined as you progress but it will help you to use time more efficiently. A good rule of thumb is the 8 hour rule. 8 hours revision; 8 hours leisure; 8 hours sleep per day. Efficient work is important but so is rest. You will have multiple subjects to juggle but try to schedule your maths revision for when you are most fresh (learning maths is not easy when you are tired).