



5 hours in... Maths & Further Maths

Research shows that the most successful students (i.e. those that make the most progress and get the highest grades) are doing between 20 and 25 hours of independent study per week by the end of Year 13. That may seem a lot, but it's something that you would build up to over the course of your A-Levels. In Year 12, we're talking something more like 15 hours per week. This equates to roughly 5 hours of independent study per A-Level per subject.

Remember that your independent study is divided into three types – **Consolidation, Reactive and Proactive**. How this is divided may vary from week to week or between subjects but one approach could be:

Consolidation - 45mins

The evening following a Maths lesson, you should spend roughly 15-20 minutes rereading your notes, completing a few extra questions from any relevant textbook exercise and making relevant flashcards e.g. for equations, definitions, facts you need to recall etc.

Reactive – 3hrs

This is your 'homework'. Each of your teachers should give you at least 1 hours' worth of homework each week. This could be linked to upcoming exams, preparation work for new topics or follow up work from an assessment or end of topic assessment that is currently being completed. This could include work based on feedback you have received, or formal work that will receive feedback.

If you find this takes more than 1 hour, that's fine, you can take this from the proactive phase (not from the consolidation phase though). Equally, if you find you finish your reactive work quickly, spend more time on your proactive work.

Proactive – 1hr 15mins

This is the section that will broaden and deepen your overall understanding of the subject you are studying. It will not necessarily involve work that has been set by your teacher, but instead it is about you doing the extra practice questions, reading articles, watching videos, TED talks etc. In Maths and Further Maths, this might contain some of the following:

- Complete a set of practice past paper questions – available from the top two links below (1 hour)
- Complete the majority of a textbook exercise (45 mins)
- Use a relevant YouTube video (Bicen Maths or TL Maths) to complete and add to class notes (30 minutes)
- Use the specification checklist or a revision ticklist to evaluate your understanding (10 mins)
- Answer questions from your revision guide (30 mins)
- Creation of knowledge organisers (1 hour)
- "Read, Cover, Write and Check" sections of Knowledge organisers (30 mins)
- Watch a TED talk on a relevant topic (20 mins)
- Go over a previous review sheet that you didn't get 100% on (15-45 mins)

Useful links

- Edexcel past papers: <https://qualifications.pearson.com/en/support/support-topics/exams/past-papers.html>
- Physics and Maths Tutor: <https://www.physicsandmathstutor.com/maths-revision/a-level-edexcel/>

- YouTube (Bicen Maths and TL Maths are useful channels): <https://www.youtube.com/c/BicenMaths> or <https://www.youtube.com/@TLMaths>
- AMSP: <https://integralmaths.org/terms.php> Individual Logins
- TED Talks https://www.ted.com/playlists/189/math_talks_to_blow_your_mind
- UKMT <https://www.ukmt.org.uk/>
- MAT Tests <https://www.maths.ox.ac.uk/study-here/undergraduate-study/maths-admissions-test>
- STEP Tests <https://www.admissionstesting.org/for-test-takers/step/preparing-for-step/>
- Mathigon <https://mathigon.org/> (a great place for reading around the subject, and fun puzzling problems to solve)

Remember that you can use Maths Surgery as a regular place and time to complete any of this work, with the added benefit of having maths teachers on hand, ready to answer any of your questions. Tuesdays and Thursdays, 3-4:15 in M9.