

Independent Learning in Mathematics

Independent learning and homework are a vital part of learning in mathematics to practice techniques, consolidate understanding, draw out misconceptions, develop problem solving skills, fluency and mastery of the topics.

Homework in the mathematics department is designed to give students greater mathematical experience and practice. It also encourages independent learning. On occasions family members may also help with homework, which encourages parents and others to be involved in the learning process. Homework can be of several kinds including writing, drawing, model making, doing a survey, designing, investigating, problem solving, discussing, measuring, using a library. It is adapted to the individual student's needs as far as is feasible and should include increased difficulty of the work at the end by setting extra challenging questions can stretch the most able; setting time limits rather than a set number of questions can push individuals when working through books; and having individuals use extra materials alongside normal homework (e.g. <http://nrich.maths.org/>)

Homework is set regularly each week. As students get older and at the discretion of the teacher students may be allowed to do their homework when they wish during the week which encourages student autonomy. The recommended amount of time to be spent on homework should be limited to:

KS3	2x30 minutes
KS4	2x40 minutes
AS	3 hours per week
A2	5 hours per week

All students have access to **Hegarty Maths and should be encouraged to make full use of this.**

If homework takes more than 125% of the recommended time then students should stop and get their parents to write the fact in their books and can catch up later.

Both pieces can be combined into one larger assignment in Y7-11 if the pattern of lessons lends to this on occasions, but this should not be the normal pattern lower down the school.

Always expect homework to be self-marked and corrected in class, normally the lesson it is due.

Homework examples

- Individual exercise questions from the text books (the vast majority of the time). Starred questions from the books to stretch.
- Investigations/activities from the books as extensions.
- nRich problem related to topic studied or next topic.
- Maths Challenge papers.
- Preparing ahead: research a topic – come prepared to explain to class or to each other in small groups.
- Review a topic and revise for tests (actively, by doing questions as well as revision notes)