

TUPTON HALL SCHOOL MATHEMATICS FACULTY

SUMMER INDUCTION WORK

Thank you for your interest in studying Mathematics at A-Level. In order to prepare you for the demands of the A-Level course we have put together a programme of preparatory work to ensure you have the best possible start to the course. These tasks are compulsory for all students wishing to enrol for A Level Mathematics in September.

The AS Mathematics course in Year 12 consolidates and develops topics and skills you have used during your GCSE, and then introduces some new topics such as Calculus and Polynomials. The key GCSE skills that we will be building upon at the start of Year 12 are identified in the preparatory work to be completed over the summer.

You need a sound knowledge of basic algebra to enable you to cope with the course at this level. The online skills tasks are designed so that you can focus on these skills and refresh your application of them. You must be able to:

- Solve quadratic equations by factorising through inspection, completing the square or using the quadratic formula, where the coefficients of x^2 may be > 1
- Solving algebraic equations involving fractions
- Simplify algebraic fractions
- Change the subject of a formula, including cases where the letter occurs more than once
- Solve pairs of linear simultaneous equations
- Solve pairs of simultaneous equations where one is linear and one is quadratic
- Simplify surds, and expressions involving surds, including rationalising a denominator
- Evaluate expressions involving negative and fractional indices
- Apply Pythagoras Theorem and Trigonometry to calculate side lengths and angles, including the use of trigonometry graphs

Your success at A-Level will depend upon your willingness to maintain and perfect a range of skills, many of which you should have already met at GCSE. In addition, you will need to be able to approach problems which require you to use more than one skill from the many you have acquired and multiple steps in order to solve them. You must also get into the habit of showing sufficient working out and using the correct notation. It is possible for you to have gained a grade B or better at GCSE and still not be proficient in some of the essential skills for Mathematics.

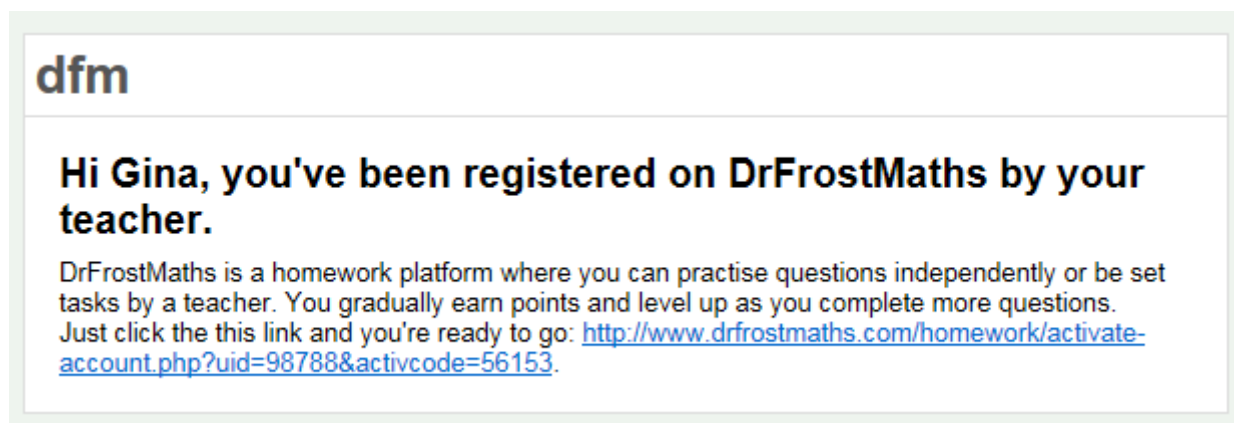
Through completing the exercises online you will focus on key GCSE topics that are essential to your understanding and ability to make progress with the content of the course at A-Level.

The summer induction work is compulsory and is a pre requisite ahead of your registration onto A Level Maths and therefore must be completed by Monday 10th September 2018. The online worksheets automatically mark your answers so you can see which area's you may need to focus on prior to starting the course in September.

Summer Induction work will be accessed on the Dr Frost Maths website www.drfrostmaths.com

If you did not attend a Maths session on one of the Taster Days during the summer term please email gwalton@tuptonhall.derbyshire.sch.uk

Once your account has been set up you will be sent a link via email for the website to set up your account (check your junk box as well as inbox just in case).



You will be asked to set up a password for the website and will then be able to login.

Once you are on the drfrostmaths website select **Work Set** from the tabs at the top right of the screen.

Select the homework task you want complete, click **View** and then **Start Homework**.

If you are having any problems with access to hegartymaths please email gwalton@tuptonhall.derbyshire.sch.uk for assistance.

There are a range of topic areas to be completed but these do not need to be done in one go. It should take you about 20 to 40 minutes to complete each task, so don't leave it until the last minute! Remember these tasks are compulsory and will demonstrate your commitment to studying Mathematics during year 12.

We expect you to score at least 80% on each task, so if you don't manage it the first time have another go. There are resources available on the drfrostmaths website if you require any support, or contact us via email or twitter [@tuptonmaths](https://twitter.com/tuptonmaths) for further support. None of the questions are beyond GCSE though, so you shouldn't have too much trouble.

Finally good luck with your GCSE results and I look forward to welcoming you in September.

Miss A Pye

Post 16 Co-Ordinator of Mathematics