Thank you for choosing to study Mathematics at Crompton House Sixth Form.

The Mathematics Department is committed to ensuring you reach your potential in the subject, however over the summer holidays it would be highly beneficial for you to complete some independent study on overlapping topics to help bridge the gap between GCSE and A Level and to ensure you are proficient in these skills come September.

Below is a list of topics that you should focus your independent study on, made up of mainly Algebra topics.

**Fractions**

All aspects of fractions studied during your GCSEs including adding + subtracting mixed numbers, and multiplying + dividing fractions.

**Algebra**

Expanding brackets, forming equations, solving linear equations, linear inequalities, simultaneous equations (linear and quadratic), factorising linear and quadratic expressions, completing the square, solving quadratic equations (by factorising, completing the square or by using the quadratic formula), changing the subject of a formula, indices, surds, algebraic fractions, quadratic inequalities.

**Functions**

Function notation, composite functions, inverse functions.

**Graphs**

Straight line graphs, basic shapes of curved graphs (quadratic and cubic).

**Trigonometry**

Pythagoras’ Theorem, Sine and Cosine rule, sketch the graphs of trigonometric functions, use trigonometric ratios to find the missing side or missing angle in a triangle.

**Resources**

In order to facilitate your independent study, there are various resources that you can avail of. If you currently have a login and password for **MyMaths** or **MathsWatch** there are a multitude of videos and online tasks that you can complete when you search for one of the specific topics above.

There are also a couple of websites that are specifically aimed at bridging the gap. They are:

[http://m4ths.com/gcse-to-a-level-bridge.html#](http://m4ths.com/gcse-to-a-level-bridge.html)

This website has been created by Steve Blades (a maths teacher) and follows a series of topic specific videos. The links on the website should lead you to a YouTube channel where you can watch videos that are around 10 minutes in length. There is also an opportunity to pause the video so that you can complete some questions and then Steve works through the solutions.

<https://www.youtube.com/channel/UCLJnnnahpUYO2tOEcXe1mHA>

Mr Hegarty has a maths channel on YouTube (hegartymaths) and he has started uploading daily A Level prep videos. They are initially uploaded as live videos but they are then saved on YouTube.

<http://www.cimt.org.uk/projects/mepres/step-up/>

This is another website aimed at bridging the gap. It been created prior to the change in the curriculum, however all the skills mentioned are still required for the current curriculum. It includes links to exercises to complete with answers available also.

<https://corbettmaths.com/contents/>

You may be familiar with Corbett Maths from studying for your GCSEs. There are a great collection of videos and corresponding worksheets that you can complete for the topics listed above.

<https://mathsmadeeasy.co.uk/gcse-maths-revision/>

You may also be familiar with Maths Made Easy which is set up the same way as Corbett Maths although slightly easier to navigate as they topics have been graded.

There are also some companies that create bridging the gap booklets that you can purchase online. The links are provided below:

<https://www.amazon.co.uk/Head-Start-Level-Maths-2017-2018/dp/1782947922/ref=tmm_pap_swatch_0?_encoding=UTF8&qid=1587457779&sr=8-1>

This is also currently available as a free download onto a Kindle by following the link [Head Start to A-Level Maths](https://www.amazon.co.uk/dp/B06XD29GX2/ref=s9_acsd_al_bw_c2_x_18_t?pf_rd_m=A3P5ROKL5A1OLE&pf_rd_s=merchandised-search-6&pf_rd_r=AP6PBT300AHP0Q5PZ4QX&pf_rd_t=101&pf_rd_p=c5fc2705-6291-42cf-b406-0d25022e9468&pf_rd_i=21173577031)

<https://www.amazon.co.uk/Bridging-GCSE-level-Maths-Student/dp/0008205019/ref=dp_ob_title_bk>