

# A Level Maths and Further Maths (OCR)

This work is about developing the skills you need to make a confident start to the A Level Maths and Further Maths courses and challenging yourself to think mathematically.

Follow @SWCHS\_Maths on Twitter, where we'll use the hashtag #ALMathsBridge to share more ideas to help you, including weekly skills tasks.

## Core Course/Set of resources

We recommend you choose one main course to follow independently from the two options below:

1) from the AMSP (Advanced Maths Support Program) which offers 6 weeks of work combining slides, questions (and answers) and challenging problems and finally some suggestions for further thinking. <https://amsp.org.uk/resource/gcse-alevel-transition-resources>

2) From Latymer School, which uses a range of similar tools to set interesting challenges. We only have sight of the first two topic areas of this resource at present. <https://sites.google.com/latymer-upper.org/year11maths-post-easter/>

We suggest you look at both links and choose which best fits your need.

We will not see your work directly or give you any formal feedback, but as you will see below there will be opportunities for you to ask for help through other means.

## Extra Task

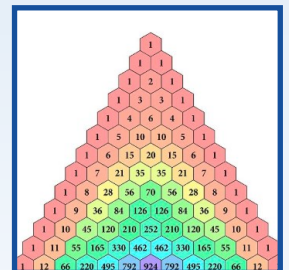
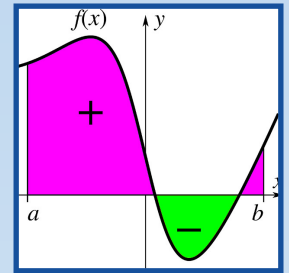
Each week we will also add an extra task/activity, which will generally focus on some of the related skills required at A-level – for example, to develop your skills with technology (desmos/geogebra/even the Casio calculator) or to develop problem solving skills....

Follow @SWCHS\_Maths on Twitter to see these new tasks each week, using the hashtag #ALMathsBridge.

## Surgery

We will hold a surgery session on Monday and Thursday lunchtime from 13:10 for 50 mins. Using surgery to ask for help is a key part of the sixth-form experience – although they're not usually online!

You are welcome to join the 'lesson' by asking any questions you have about the work you have been doing – we will do our best to answer them! Tag @SWCHS\_Maths on Twitter to get in touch with us.

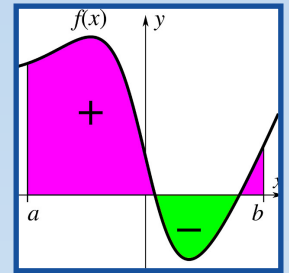


# A Level Maths and Further Maths

## Working Together

Another important skill for success at A-level is working together. This is clearly more difficult at the present time! We would strongly encourage you to set up your own study group with other students from your school who are planning to study A Level maths or further maths, and speak to each other regularly as you work through the bridging course.

To help you collaborate with others, you might like to use this useful shareable whiteboard from DrFrost maths - <https://www.drfrstmaths.com/whiteboard/>. You will need to share the link (with a unique code) with your study group.



## Exploring and Fun

Here is a list of investigative and fun resources that you might also like to explore. Please feel free to try these as you wish.

### **Ted Talks**

A series of interesting maths (other subjects available too) talks – huge variation and something for everyone! <https://ed.ted.com/lessons?category=mathematics&direction=desc&sort=featured-position>

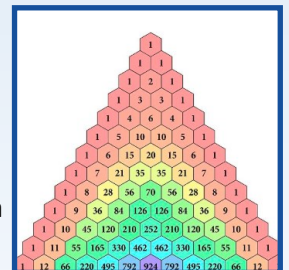


### **Websites**

Brilliant : Build quantitative skills in math, science, and computer science with fun and challenging interactive explorations. For full access there is a fee, but you can do the daily puzzle for free. You do need to register. <https://brilliant.org/>

Don Steward : A blog with some great puzzles in many different topic areas covering all GCSE topics. <https://donsteward.blogspot.com/>

Futoshiki : Futoshiki puzzles are a good way to practice reasoning, and could be good for a bit of 'maths mindfulness'! Online generator here: <https://www.futoshiki.org/>

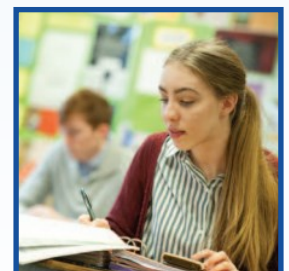


Area mazes : Introduction to solving area mazes: <https://www.theguardian.com/science/2015/aug/03/alex-bellos-monday-puzzle-question-area-maze-smarter-than-japanese-schoolchild>. There are some tricky Don Steward ones here: <https://donsteward.blogspot.com/2016/11/area-mazes.html>

### **Youtube**

Numberphile : loads of videos covering lots of different interesting maths related topics

3Blue1Brown : loads of videos covering lots of different interesting maths related topics



# A Level Maths and Further Maths

## Exploring and Fun

Finally – with lockdown time on your hands, some interesting Maths-related reading:

### Books

Matt Parker : Things to Make and Do in the Fourth Dimension

Rob Eastaway : How many Socks make a Pair?

Alex’s Adventures in Numberland by Alex Bellos

Cabinet of Mathematical Curiosities by Ian Stewart

The Num8er My5teries by Marcus du Sautoy

How Many Socks Make a Pair?: Surprisingly Interesting Maths by Rob Eastway

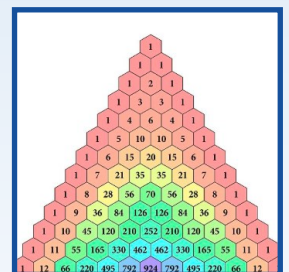
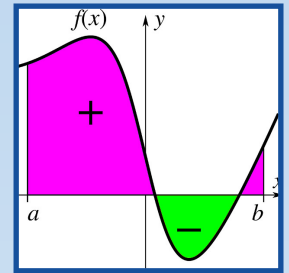
The Curious Incident of the Dog in the Night-time by Mark Haddon

The Penguin Dictionary of Curious & Interesting Numbers by David Wells

The Calculus Wars by Jason Socrates Bardi

The Code Book by Simon Singh

50 Mathematical Ideas You Really Need to Know by Tony Crilly



### Twitter Feeds

Most of the list below are either current or past maths teachers who comment on maths and/or post fun puzzles

@edsouthall Ed Southall: puzzles and comments about maths

@mdawesmdawes Mark Dawes: puzzles and comments about maths

@panlepan Vincent Pantaloni : puzzles and comments about maths

@robeastaway Rob Eastaway: puzzles and comments about maths

@benorlin Ben Orlin :puzzles and comments about maths

@nrich : great resources for all levels

