



The John Roan School Sixth Form

The best in everyone™

Part of United Learning

Year 11 Bridging Work for Maths (A Level)



Complete Essential Skills

The Advanced Mathematics Support Programme (AMSP) have created some fantastic resources and practice questions to support students after GCSE in preparing to do Maths A Level. There are 6 key sections: Simplifying, Expanding, Factorising, Rearranging, Solving and Sketching.

Link: [Transition – Essential Skills](#)

Time: *Limitless! (Recommended 2 hours)*



Read Female mathematicians that changed the world

Chances are you're probably well aware of Newton, Einstein and Turing, but when it comes to famous female mathematicians, their achievements are less well known. Unfortunately, there is a stereotype that still prevails today that maths is a male subject and that girls are no good at it. Clearly, this couldn't be further from the truth. Expand your knowledge of awesome mathematicians and read about 9 of the best females below.

Link: [9 Famous Female Mathematicians](#)

Time: *30 minutes*



Watch The Monty Hall Problem

The Monty Hall Problem is a famous 'real life' maths problem from a game show back in the day. The video below explains the maths behind choosing the door to maximize your chance of winning.

Link: [The Monty Hall Problem](#)

Time: *10 minutes*



Listen Why Study Mathematics

Dr Vicky Neale has written a popular book about why people should study mathematics. In this podcast she explains her reasons for choosing the BEST subject there is. If this podcast doesn't take your fancy, there are lots of different ones covering a variety of maths themes – choose one from the title and give it a listen!

Link: [Why Study Mathematics](#)

Time: *45 minutes*



Complete Maths & Logic Puzzles

Brain teasers, logic puzzles and maths riddles give you challenges that encourage problem-solving and logical thinking. These two skills are fundamental to not just doing well in Maths A Level, but enjoying it!

Click the link below to take you to a range of different logic puzzles. Push yourself to keep going even if you desperately want to give up and Google the answer!

Link: [Logic Puzzles](#)

Time: *Limitless! (Recommended 30 minutes)*



Watch The simplest maths problem no one can solve

The Collatz Conjecture is the simplest maths problem no one can solve — it is easy enough for almost anyone to understand but notoriously difficult to solve. Watch the video below to be amazed by the complexity of what appears to be very simple maths....!

Link: [The Simplest Maths Problem No One Can Solve](#)

Time: *22 minutes*



Read Tricky maths questions from around the world

Maths can be a tricky subject for many. But some questions are trickier than others! The below article gives 5 'easy' maths questions from around the world that aren't quite as simple as they first appear (although all are very solvable!) Getting enjoyment from doing extra maths, even if the maths behind it isn't that complicated, is one of the markers of a top mathematician!

Link: [Tricky 'easy' maths questions](#)

Time: *30 minutes*