Springwood SIXTH FORM

Summer Task 2023

So, you think you would like to study: Mathematics

Summer Task Instructions:

So you're thinking about choosing Mathematics as an A level. This task has been put together to help give you the best possible start in September by hitting the ground running

This task concentrates on material that you should have seen at GCSE. There are some topics such as trigonometry that do not feature in this task but you will be required to know them.

It is expected that you will complete ALL the questions/problems in this task and submit your work during your first mathematics lesson in September. It is expected that this will be done on separate paper with full working shown. This will form part of your initial assessment grade so it is very important that it is done to the best of your ability. You can email **maths@springwoodhighschool.co.uk** any questions relating to the task or the A-level course.

Suggested Additional Reading:

A new topic that will be coming up in your A-level! Watching the following video may give you a head start when it comes to the binomial expansion:
https://www.youtube.com/watch?v=Pcgvv6T_bD8

A-level prep with Mr Hegarty: https://www.youtube.com/watch?v=ziMiuyuQKNE

For those of you that have access to Hegarty maths, there is also the Hegarty transition course which highlights all of the GCSE topics you need to know for A Level Mathematics.

Questions to try out:
- http://www.regentsprep.org/regents/math/algtrig/atp4/pracbinomial.htm
- https://www.think-maths.co.uk/standupmaths-videos

Other recommended websites for extra help or further reading (NB: If a username/password is needed, please email maths@springwoodhighschool.co.uk);

- https://www.examsolutions.net/
- Hegarty maths
- https://www.drfrostmaths.com/
- https://www.mathsgenie.co.uk/newalevel.html
- https://sites.google.com/site/tlmaths314/home/a-level-maths-2017
- https://crashmaths.com/
- https://www.physicsandmathstutor.com/
- https://amsp.org.uk/teachers/11-16-maths/resources
- https://amsp.org.uk/resource/gcse-alevel-transition-resources
- https://alevelmathsrevision.com/bridging-the-gap/

- https://amsp.org.uk/teachers/a-level/resources
- https://amsp.org.uk/teachers/a-level-further/resources
- https://mei.org.uk/miotm
- https://brilliant.org/
- https://plus.maths.org/content/
- https://www.bbc.com/future/
- http://chalkdustmagazine.com/
- http://www.numberphile.com/
- https://www.mathscareers.org.uk/
- https://interestingengineering.com/
- https://www.madasmaths.com/
- https://colmanweb.co.uk/problemsolving/ukmt.htm
- https://projecteuler.net/
- https://www.desmos.com/calculator
- https://integralmaths.org/ritangle/

Books:
- CGP Head Start to A Level Maths book
- How long is a piece of string - Rob Eastaway
- The Art of Statistics by David Spiegelhalter
- Math on Trial by Coralie Colmez and Leila Schneps
- Factfulness by Hans Rosling
- The Undercover Economist by Tim Harford
- Why do Buses Come in Threes? by Rob Eastaway
- Maths on the back of an Envelope by Rob Eastaway
- The Life Changing Magic of Numbers by Bobby Seagull
- Invisible Women by Caroline Criado Perez
- The Perils of Perception by Bobby Duffy
- Humble Pi by Matt Parker
- Music of the Primes by Marcus du Sautoy
- Fermats Last Theorem by Simon Singh
- 17 Equations that Changed the World by Ian Stewart
- 1089 And All That by David Acheson
- Alex's Adventures in Numberland by Alex Bellos

Equipment
You will also need to make sure you purchase a Casio Classwiz FX-991EX calculator before starting in September

A guide to how to use it can be found here
https://mathematicsforstudents.wordpress.com/calculators-tools/classwiz-tutorials/ and
https://www.drfrostmaths.com/resource.php?rid=262

Please submit the task, as well as a copy of the reading log, to your teacher on the first lesson in September.