$\frac{x^{2} + 3}{y(x - \sqrt{x^{2} + 3})} \rightleftharpoons dy$ $\frac{dy}{y} = \int \frac{x dx}{x^{2} + 3} - \int \frac{dy}{x^{2} + 3} = \int \frac{dy}{x^{2}$

Year 13 Maths Transition



If you are going onto University to study anything that is "Maths heavy" such as Maths (!!), Physics or Engineering; we recommend that you work through the transition material below to support you in your transition.

- Often, students that go on to do a Maths degree but haven't done an A-Level in Further Maths worry about being at a disadvantage. Obviously, this is not the case but to ease any worries, if you are going to study Maths or a Maths heavy course, we recommend some self-study on the following content:
 - o Complex Numbers
 - Argand Diagrams
 - Advanced Complex Numbers
 - Hyperbolic Functions
 - Differential Equations
- In order to access our textbooks on this, join the following Showbie class where all of the relevant chapters have been uploaded: DEDAW
- As you all know, to be a successful A-Level Mathematician, you need to *love* Maths and enjoy all of
 its wonders! Below are some recommended books that you can read to inspire your curiosity of
 Maths. Follow the links to the Amazon pages where you'll be able to find more information about
 each book and their reviews. If it looks like something that you'd enjoy reading, order it!
 - Numbers and Proofs
 - o How to think like a Mathematician: A Companion to Undergraduate Mathematics
 - o A concise introduction to Pure Mathematics
 - o The Calculus Story: A Mathematical Adventure
 - Alex's Adventures in Numberland
 - o Brief History of Infinity: The Quest to Think the Unthinkable
 - o Closing the Gap: The Quest to Understand Prime Numbers
 - o Great Feuds in Mathematics: Ten of the Liveliest Disputes Ever
 - o Alan Turing: The Enigma
- There are lots of online courses available to you through the links below:
 - o https://www.futurelearn.com/subjects/science-engineering-and-maths-courses
 - o https://www.open.edu/openlearn/free-courses/full-catalogue
- And in case you wanted to look at some of the mathematical modelling behind Covid-19, do have a
 watch of this video: https://www.youtube.com/watch?v=NKMHhm2Zbkw