

# YEAR 13 TRANSITION: MATHS

The only way  
to **learn**  
**mathematics**  
is to **do**  
**mathematics.**

PAUL HALMOS

**MATHEMATICS**  
is not about  
numbers, equations,  
computations, or  
algorithms:  
it is about  
**UNDERSTANDING.**

*William Paul Thurston*

## 1) CALCULATOR

Do you know how to use your Classwizz calculator fully? Did you know that it can help you draw graphs by using the table function?

- Use this time to make sure you maximise the help that you can get from your calculator.
- Make sure you know how to work all the apps.
- Use the attached PowerPoint for help.

## 2) YEAR 12 REFLECTION

Complete the attached reflection sheet which will help you highlight your areas of weakness using the following: -

- Your assessed homeworks and the detailed feedback given by your teachers
- Your marked exam papers and the detailed feedback given by your teachers
- Your completed exercises and marked solutions

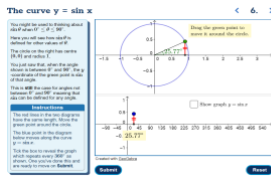
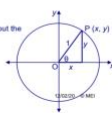
## 3) REVISION OF YEAR 12 CONTENT

After you have highlighted your areas of weakness, revisit and revise these topics. Record what you have done and how long you have spent on your reflection sheet.

You will be sitting the Year 12 examination at the end of September as an in-class assessment and you will need to be prepared!

Ideas and activities to help you complete your revision follow:-

# EFFECTIVE WAYS TO REVISE FOR MATHS

	ACTIVITY	HOW TO USE – do 20-30 mins a day!
1	Integral walkthroughs	Use the interactive walkthroughs on Integral to increase your understanding. 
2	Integral notes and examples	Use the notes and examples which have fully worked solutions on Integral. <p style="text-align: center;"><b>Trigonometric identities</b></p> <p>You need to know the following identities:</p> <p><math>\sin \theta = \cos \theta</math>      e.g. <math>\sin 30^\circ = \cos 60^\circ</math>  <math>\tan \theta = \frac{\sin \theta}{\cos \theta}</math>  <math>\sin^2 \theta + \cos^2 \theta = 1</math></p> <p>An identity is true for all values of <math>\theta</math>.          You can prove both these identities by thinking about the circle diagram used earlier.          Since <math>\cos \theta = x</math>, <math>\sin \theta = y</math> and <math>\tan \theta = \frac{y}{x}</math>.</p> 
3	Integral exercises	Complete the exercises and mark with using the fully worked solutions. <p>Using the identities <math>\sin^2 x + \cos^2 x = 1</math> and/or <math>\tan x = \frac{\sin x}{\cos x}</math>, simplify</p> <p>(i) <math>\frac{\sqrt{1 - \cos^2 x}}{\tan x}</math>      (ii) <math>\frac{\sin x}{\sqrt{1 - \sin^2 x}}</math>      (iii) <math>\frac{\cos^2 x}{1 + \sin x}</math></p>
4	Integral tests	Complete the online tests and evaluate.
5	Full coverage questions and answers	Use the attached set of full coverage questions and answers to revise a certain topic.
6	Redo exercises	Return the exercises and reattempt the questions that you found difficult.
7	Seminars	Revisit the online seminars which are saved on Teams.
8	Websites	Visit the following websites for extra resources: - <ul style="list-style-type: none"> <li>• <a href="https://revisionmaths.com/">https://revisionmaths.com/</a></li> <li>• <a href="https://mathsmadeeasy.co.uk/">https://mathsmadeeasy.co.uk/</a></li> <li>• <a href="http://www.mrbartonmaths.com/index.html">http://www.mrbartonmaths.com/index.html</a></li> <li>• <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a></li> <li>• <a href="https://www.drfrostmaths.com/">https://www.drfrostmaths.com/</a></li> </ul>
12	Set up a Study Group	Revise with friends! Plan responses together, share revision resources etc.

## 4) AS Papers

We have posted 2 sets of AS papers out to you and have also attached copies if you need spare. Complete the papers making sure that you attempt every question and that you time yourself and write the time taken on the front of the papers. You will need to hand in the completed papers to your Year 13 teachers for marking in September. This along with your work throughout Year 12 will help us with your predicted grade for UCAS and apprenticeship applications.