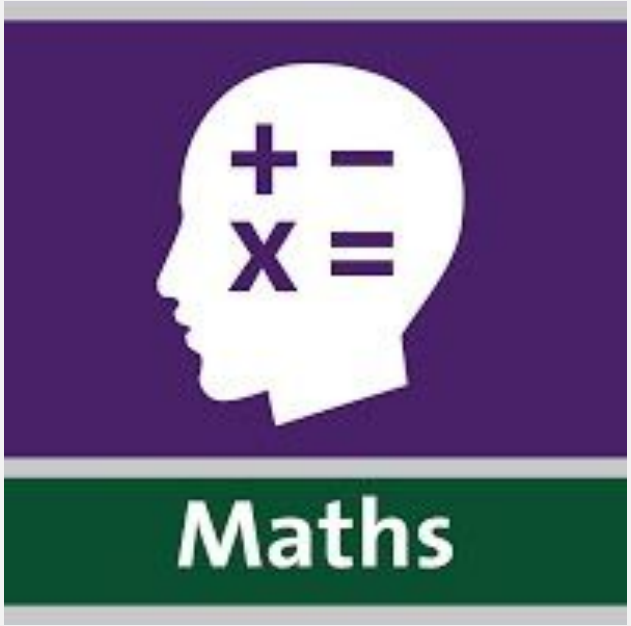
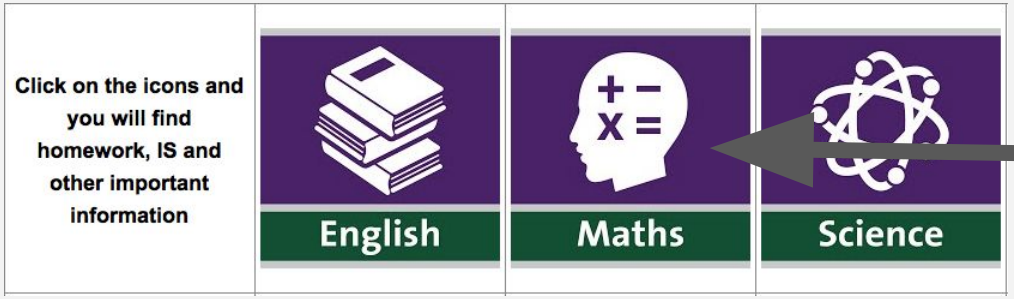
Making Maths Count



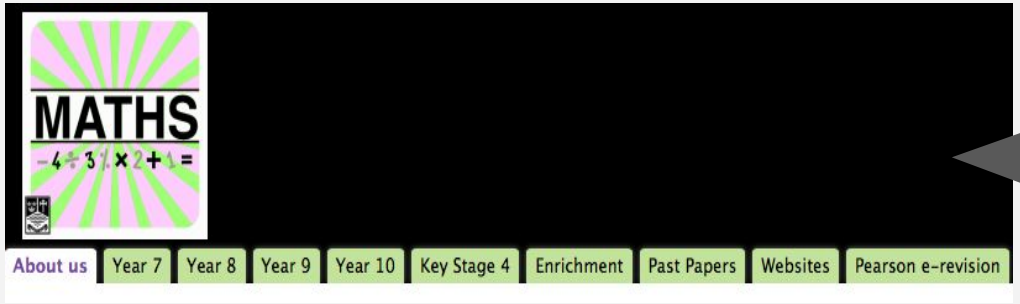
Accessing the school platform

First thing you need to do is log into the schools website whcih will bring up various different menus.

Click on this box to get a new set of menus. And select Subject Clouds



Select Maths to take you to all the resources that have been uploaded



Once here there are two main areas for you peruse. Key stage 4 and Past Papers

Key Stage 4 area

In this area you will find revision presentations, practice booklets by topic and grade and a little Geordie bloke doing some revision topics.

Revision practice booklets

GCSE BOOKLETS BY SUBJECT AND GRADE

TITLE

- Grade B-A*
- Grade B-A* answers
- Grade C
- Grade C answers

Open *GCSE BOOKLETS BY SUBJECT AND GRADE*

New GCSE Foundation by topic

TITLE

- Algebra
- Handling Data
- Number
- Shape

Open *New GCSE Foundation by topic*

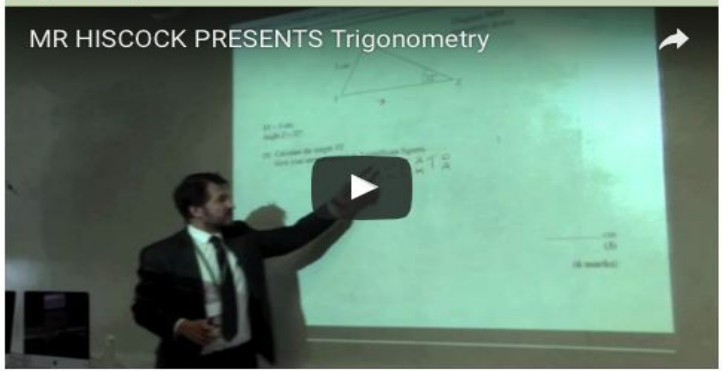
New Maths GCSE Higher by topic

TITLE

- Algebra
- Handling Data
- Number
- Shape and Space

Open *New Maths GCSE Higher by topic*

Trigonometry

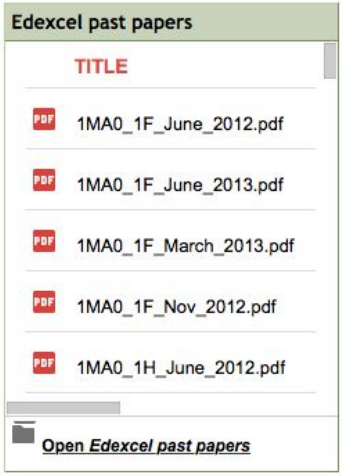


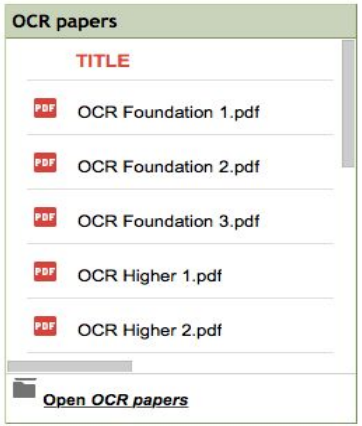
Hopefully more videos will be added throughout the year.

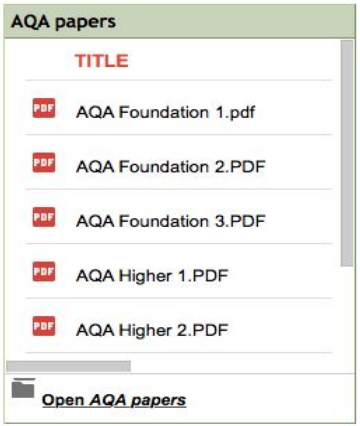
Past Paper area

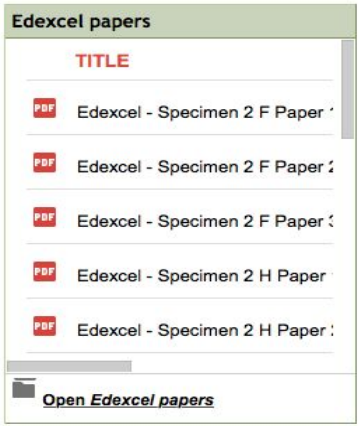
In this area you will find past papers from years gone by as well as the new specification sample papers that we have been given access to.

Edexcel Linear Papers (Old style GCSE) Specimen papers for new GCSE



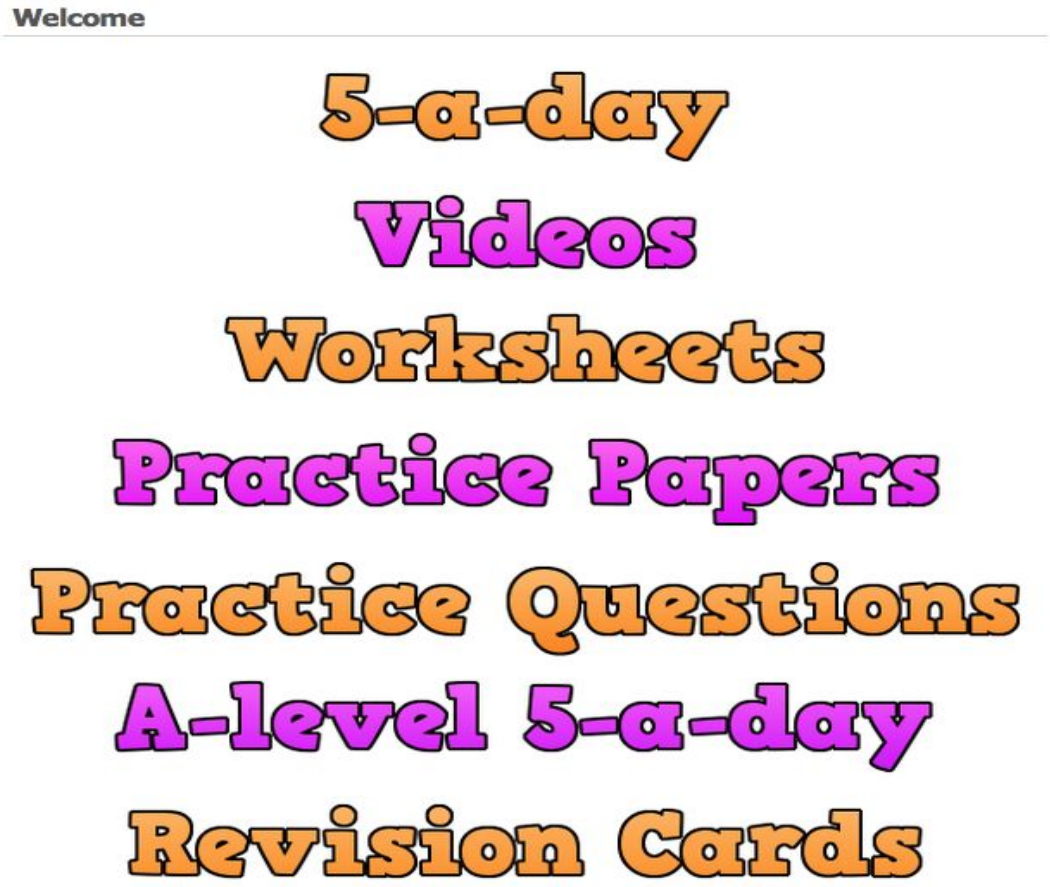






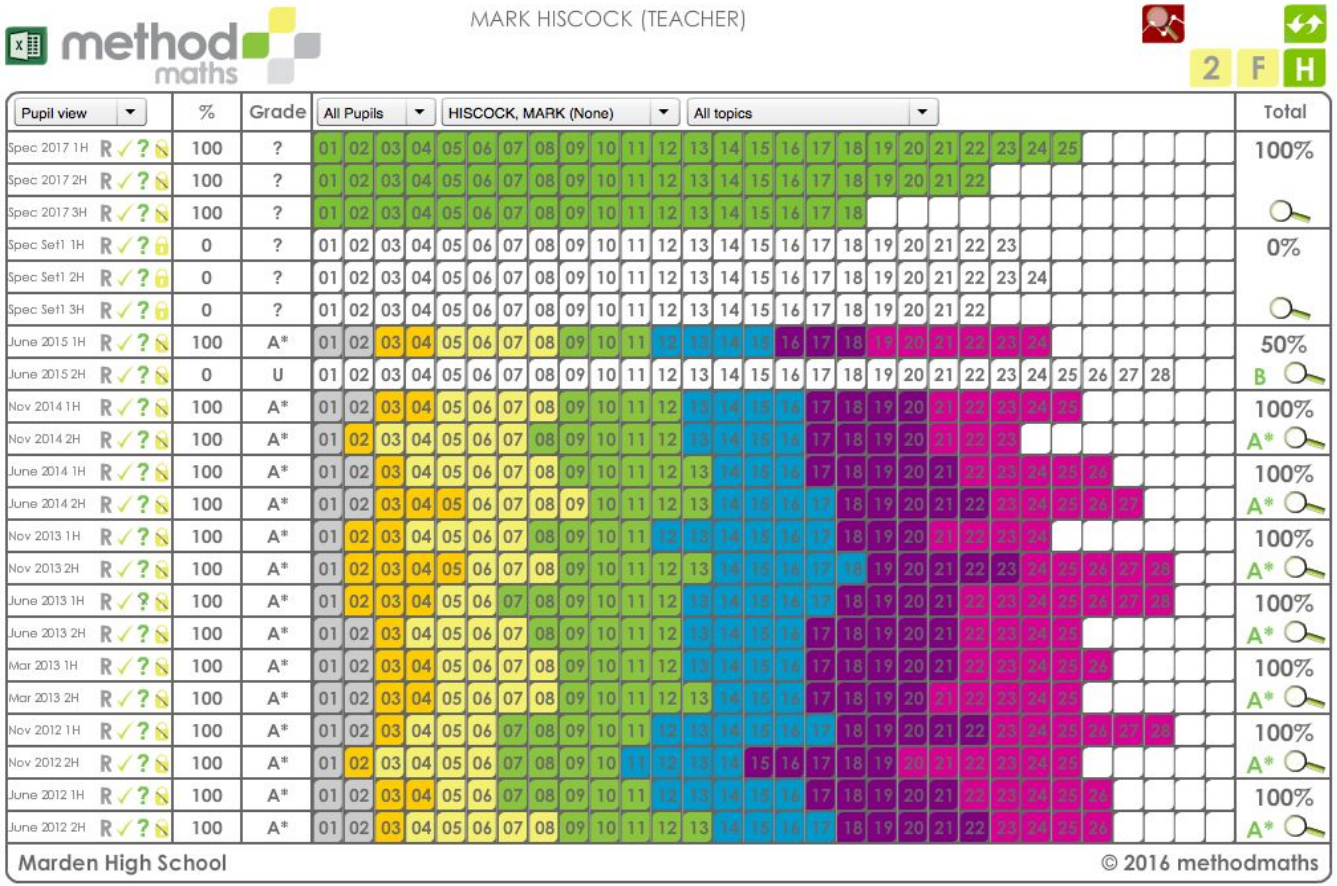
Remember that maths is a practice subject and the only way to improve it is to work through as many problems and papers as possible.

Corbett Maths (www.corbettmaths.com)



This is an excellent website that has a wealth of resources to help your child improve their maths skills, these include how to videos and practice worksheets as well as the excellent 5 a day sheets for revision.

Method Maths (www.methodmaths.com)



This is an excellent subscription only service which gives students to all of the Edexcel past papers online. Each question is marked instantly but more importantly the questions have prompts to help guide the students to the correct solutions.

Centre ID: marden

Username: firstname.surname

Password: changeme

Just Maths (www.justmaths.co.uk)

JustMaths Online
The place for GCSE Maths: Tutorials, revision and support

Once you have logged in, you will find a whole of host of support including the "Super 60" for the first examination in Summer 2017 and "Resit 60" tutorials for those resitting the older GCSE.

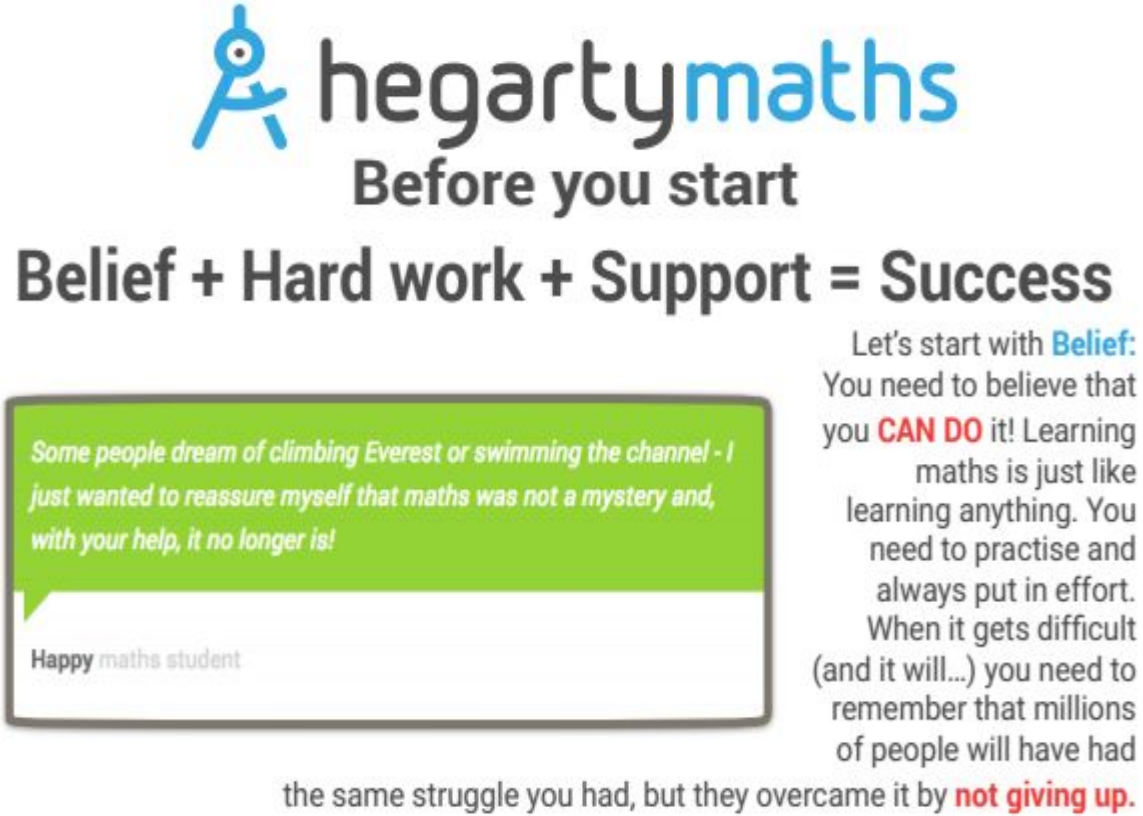
If you are a student, you will be able to print out the worksheets to work on alongside watching the tutorials. You will also find the worksheet solutions.

This is an excellent subscription only service which focuses on 60 key topics. Each of the 60 topics has a video with an accompanying worksheet for students to work through.

Username:
MardenStudent

Password:
Marden

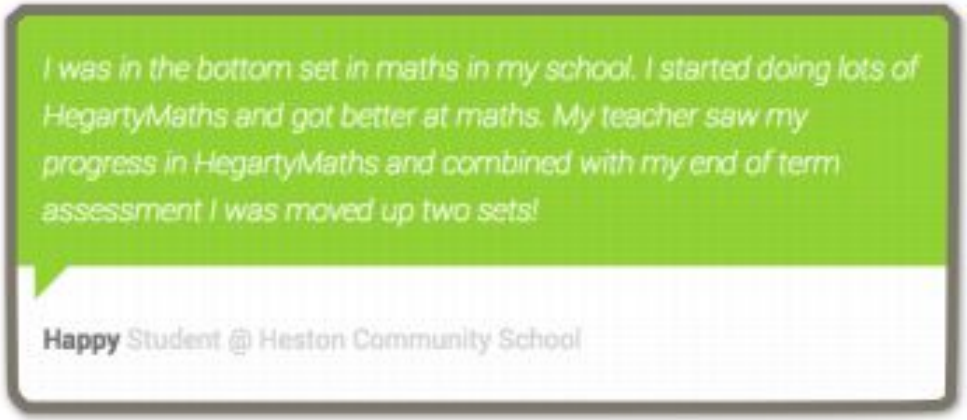
Hegarty Maths (www.hegartymaths.co.uk)



This is a subscription only service which has online lessons and homeworks. The booster packs are very useful and the site has been redone for the new spec.

Hegarty Maths (www.hegartymaths.co.uk)

Now for **Hard Work:**
Trying your best and always **putting in effort is crucial** to the process. You need to ensure you attempt all tasks and work hard at maths. Who knows? If you didn't enjoy it before, maybe this is your chance to chance your views of it learn one of the most rewarding disciplines. And if you do enjoy it, then this is a fantastic opportunity to **master it.**



Hegarty Maths (www.hegartymaths.co.uk)

HegartyMaths is a amazing place to learn new things it shown me the best videos on how to work out the hardest questions

Happy Student @ Harris Academy Morden

We will **Support** you: HegartyMaths is totally committed to helping students improve at maths. Whenever you are stuck we hope that we will be there to support you when you need it most.

Topics new to Foundation tier (previously Higher tier only)

Index laws: zero and negative powers (numeric and algebraic)
Standard form
Compound interest and reverse percentages
Direct and indirect proportion (numeric and algebraic)
Expand the product of two linear expressions
Factorise quadratic expressions in the form $x^2 + bx + c$
Solve linear/linear simultaneous equations
Solve quadratic equations by factorisation
Plot cubic and reciprocal graphs, recognise quadratic and cubic graphs
Trigonometric ratios in 2D right-angled triangles
Fractional scale enlargements in transformations
Lengths of arcs and areas of sectors of circles
Mensuration problems
Vectors (except geometric problems/proofs)
Density
Tree diagrams

Topics new to Higher tier

- Expand the products of more than two binomials
- Interpret the reverse process as the 'inverse function'; interpret the succession of two functions as a 'composite function' (using formal function notation)
- Deduce turning points by completing the square
- Calculate or estimate gradients of graphs and areas under graphs, and interpret results in real-life cases (not including calculus)
- Simple geometric progressions including surds, and other sequences
- Deduce expressions to calculate the nth term of quadratic sequences
- Calculate and interpret conditional probabilities through Venn diagrams

Topics new to both tiers

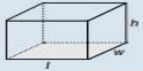
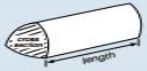
- Use inequality notation to specify simple error intervals
- Identify and interpret roots, intercepts, turning points of quadratic functions
- graphically; deduce roots algebraically
- Fibonacci type sequences, quadratic sequences, geometric progressions
- Relate ratios to linear functions
- Interpret the gradient of a straight line graph as a rate of change
- Know the exact values of sin θ and cos θ for θ = 0°, 30°, 45°, 60°and 90°
- Know the exact value of tan θ for θ = 0°, 30°, 45° and 60°

Formulae students need to learn.

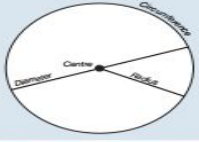
Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

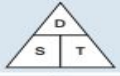
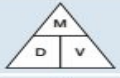
Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	
Volume of pyramid = $\frac{1}{3}$ × area of base × h	

Circles

Circumference = π × diameter, $C = \pi d$	
Circumference = $2 \times \pi \times$ radius, $C = 2\pi r$	
Area of a circle = π × radius squared $A = \pi r^2$	

Compound measures

Speed speed = $\frac{\text{distance}}{\text{time}}$	
Density density = $\frac{\text{mass}}{\text{volume}}$	
Pressure pressure = $\frac{\text{force}}{\text{area}}$	

Pythagoras

Pythagoras' Theorem

For a right-angled triangle, $a^2 + b^2 = c^2$

Trigonometric ratios (*new to F*)

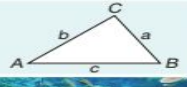
$\sin x° = \frac{\text{opp}}{\text{hyp}}$, $\cos x° = \frac{\text{adj}}{\text{hyp}}$, $\tan x° = \frac{\text{opp}}{\text{adj}}$

Trigonometric formulae

Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule $a^2 = b^2 + c^2 - 2bc \cos A$

Area of triangle = $\frac{1}{2} ab \sin C$



Quadratic equations

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$, where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$

Foundation tier formulae | Higher tier formulae

These formulae were previously given to the students but now they will have to learn them.