



**Mathematics
Department**

Welcomes you to ...

Year 11 Parent Information Evening



Mark Eaden
Head of Maths



Peter Watts
KS4 Coordinator

Session Overview

1

What is covered in the Maths GCSE and how is it assessed?

2

How can students revise effectively for Maths?

3

How does *Hegarty Maths* work and what are the benefits?



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GCSE (9-1) Mathematics

Specification

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Mathematics (1MA1)

First teaching from September 2015

First certification from June 2017

Issue 2



[Direct link](#)



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What is covered in the Maths GCSE and how is it assessed?

Tier	Topic area	Weighting
Foundation	Number	22 - 28%
	Algebra	17 - 23%
	Ratio, Proportion and Rates of change	22 - 28%
	Geometry and Measures	12 - 18%
	Statistics & Probability	12 - 18%
Higher	Number	12 - 18%
	Algebra	27 - 33%
	Ratio, Proportion and Rates of change	17 - 23%
	Geometry and Measures	17 - 23%
	Statistics & Probability	12 - 18%



Foundation tier knowledge, skills and understanding

Can be found in the specification document

1. Number

Structure and calculation

What students need to learn:

- N1** order positive and negative integers, decimals and fractions; use the symbols =, \neq , $<$, $>$, \leq , \geq
- N2** apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals)
- N3** recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals
- N4** use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem
- N5** apply systematic listing strategies
- N6** use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5



Higher tier knowledge, skills and understanding

Can be found in the specification document

1. Number

Structure and calculation

What students need to learn:


- N1** order positive and negative integers, decimals and fractions; use the symbols =, \neq , $<$, $>$, \leq , \geq
- N2** apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative; understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals)
- N3** recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions); use conventional notation for priority of operations, including brackets, powers, roots and reciprocals
- N4** use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem
- N5** apply systematic listing strategies, **including use of the product rule for counting (i.e. if there are m ways of doing one task and for each of these, there are n ways of doing another task, then the total number of ways the two tasks can be done is $m \times n$ ways)**



What is covered in the Maths GCSE and how is it assessed?


The whole GCSE is determined by 240 marks across 4½ hours ...

Paper 1 Non-calculator

Please check the examination details below before entering your candidate information	
Candidate surname	Other names
Centre Number	Candidate Number
Pearson Edexcel Level 1/Level 2 GCSE (9-1)	
Morning (Time: 1 hour 30 minutes) Paper Reference 1MA1/1F	
Mathematics Paper 1 (Non-Calculator) Foundation Tier	
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.	Total Marks
Instructions <ul style="list-style-type: none">Use black ink or ball-point pen.Fill in the boxes at the top of this page with your name, centre number and candidate number.Answer all questions.Answer the questions in the spaces provided – there may be more space than you need.You must show all your working.Diagrams are NOT accurately drawn, unless otherwise indicated.Calculators may not be used.	
Information <ul style="list-style-type: none">The total mark for this paper is 80The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.	
Advice <ul style="list-style-type: none">Read each question carefully before you start to answer it.Keep an eye on the time.Try to answer every question.Check your answers if you have time at the end.	
P55583A 4070 Pearson Education Ltd 6/20/2019	Turn over ▶ 


19th May 2020
80 marks
1 hour 30 minutes

Paper 2 Calculator

Please check the examination details below before entering your candidate information	
Candidate surname	Other names
Centre Number	Candidate Number
Pearson Edexcel Level 1/Level 2 GCSE (9-1)	
Morning (Time: 1 hour 30 minutes) Paper Reference 1MA1/2F	
Mathematics Paper 2 (Calculator) Foundation Tier	
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks
Instructions <ul style="list-style-type: none">Use black ink or ball-point pen.Fill in the boxes at the top of this page with your name, centre number and candidate number.Answer all questions.Answer the questions in the spaces provided – there may be more space than you need.You must show all your working.Diagrams are NOT accurately drawn, unless otherwise indicated.Calculators may be used.If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.	
Information <ul style="list-style-type: none">The total mark for this paper is 80The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.	
Advice <ul style="list-style-type: none">Read each question carefully before you start to answer it.Keep an eye on the time.Try to answer every question.Check your answers if you have time at the end.	
P55587A 4070 Pearson Education Ltd 6/20/2019	Turn over ▶ 

4th June 2020
80 marks
1 hour 30 minutes

Paper 3 Calculator

Please check the examination details below before entering your candidate information	
Candidate surname	Other names
Centre Number	Candidate Number
Pearson Edexcel Level 1/Level 2 GCSE (9-1)	
Morning (Time: 1 hour 30 minutes) Paper Reference 1MA1/3F	
Mathematics Paper 3 (Calculator) Foundation Tier	
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks
Instructions <ul style="list-style-type: none">Use black ink or ball-point pen.Fill in the boxes at the top of this page with your name, centre number and candidate number.Answer all questions.Answer the questions in the spaces provided – there may be more space than you need.You must show all your working.Diagrams are NOT accurately drawn, unless otherwise indicated.Calculators may be used.If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.	
Information <ul style="list-style-type: none">The total mark for this paper is 80The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.	
Advice <ul style="list-style-type: none">Read each question carefully before you start to answer it.Keep an eye on the time.Try to answer every question.Check your answers if you have time at the end.	
P55596A 4070 Pearson Education Ltd 6/20/2019	Turn over ▶ 

8th June 2020
80 marks
1 hour 30 minutes



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What is covered in the Maths GCSE and how is it assessed?

Marks required out for 240 for grades in Summer 2019 ...

1	2	3	4	5	6	7	8	9
Foundation Tier								
36	73	111	149	184				
15%	30%	46%	62%	77%				
Higher Tier								
		38	52	80	108	137	167	198
		16%	22%	33%	45%	57%	70%	83%



Maths revision should involve both:

- Learning and recall of key information, e.g. formulae
- Purposeful practice of skills

It should be active and should take students out of their comfort zone!



Expectation

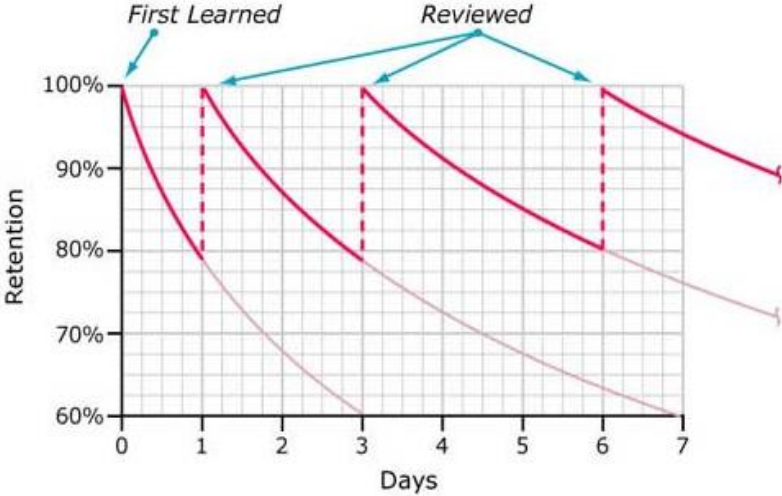
Reality



Revision strategy - Interleaving

Answer a set of questions on previously covered units of work or lessons. For example, 1 question from this week, 2 questions from 2 weeks ago, 3 from 3 weeks ago and 4 from 4 weeks ago. This could be adapted to months, rather than weeks, to increase the number of topics or units of work covered.

Typical Forgetting Curve for Newly Learned Information

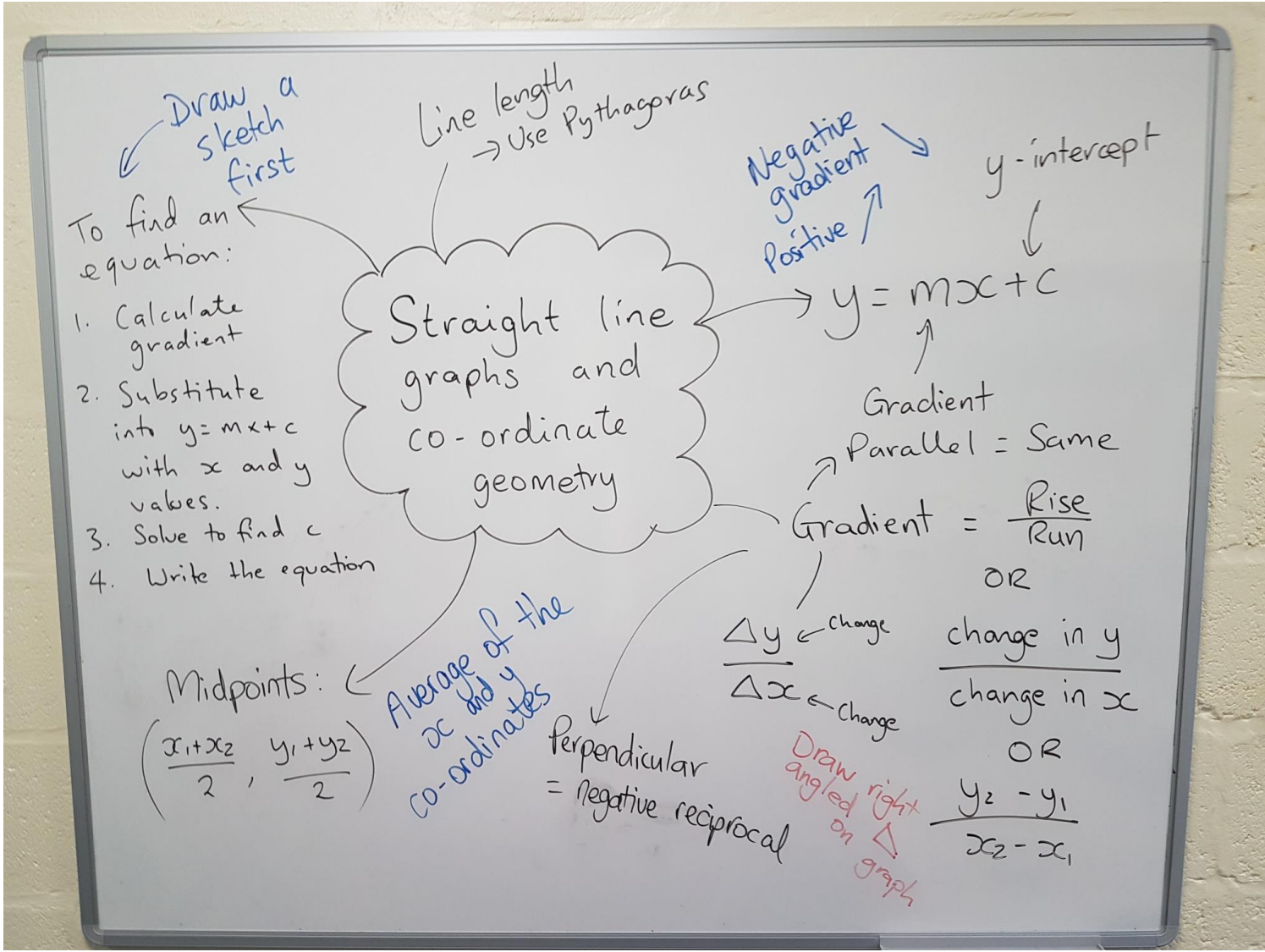


Revision strategy - Brain Dump / Retrieval Practice

1. Read through a section of your notes (or try this from memory, without pre-reading).
2. Cover you notes up and write down as much of the information as you can remember.
3. Review what you have written. Using your notes and a different colour pen, correct any mistakes in what you have written and copy out what you did not remember.
4. Complete this process twice, with at least a two day gap.



How can students revise effectively for Maths?



Revision strategy - Flashcards

1. Produce a set of flash cards using one of, or a range of the following options:

Front	Back
Question	Answer
Key term	Definition
Statement	True or false
Visual image	Description

2. Test yourself, or ask someone else (such as a parent, carer or friend) to test you, by looking at the front and thinking or writing what is on the back, or vice versa. Complete this process at least twice, with a one day gap between each test.



Skills Practice – Corbett Maths (corbettmaths.com)

Quick Links - Home x Corbettmaths - Videos, workshe... x +

corbettmaths.com

Corbettmaths

Welcome Videos and Worksheets Primary 5-a-day More Revision Cards

Welcome

5-a-day

Videos

Worksheets

GCSE Revision Cards

Available for GCSE Higher or Foundation Tier

Primary Study Cards

Corbettmaths Revision Cards
Designed for the new 9-1 GCSE





Videos and Worksheets

Videos and Worksheets

[Click here for answers](#)

2D shapes: names [Video 1](#) [Practice Questions](#) [Textbook Exercise](#)

2D shapes: quadrilaterals [Video 2](#) [Practice Questions](#) [Textbook Exercise](#)

3D shapes: names [Video 3](#) [Practice Questions](#) [Textbook Exercise](#)

3D shapes: nets [Video 4](#) [Practice Questions](#) [Textbook Exercise](#)

GCSE Revision Cards

Available for GCSE Higher or Foundation Tier



Primary Study Cards





Corbettmaths

Welcome Videos and Worksheets Primary 5-a-day **More** Revision Cards

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- Practice Papers**
- Conundrums
- Class Quizzes
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- About

More

Further Maths

GCSE Practice Papers

Conundrums

Class Quizzes

pers/ **Blog**

GCSE Revision Cards

Available for GCSE Higher or Foundation Tier

Primary Study Cards



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Corbettmαths

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Practice Papers

GCSE 9-1 Practice Papers

GCSE A*-G Practice Papers

GCSE Summer 2019

GCSE Revision Cards

Available for GCSE Higher or Foundation Tier

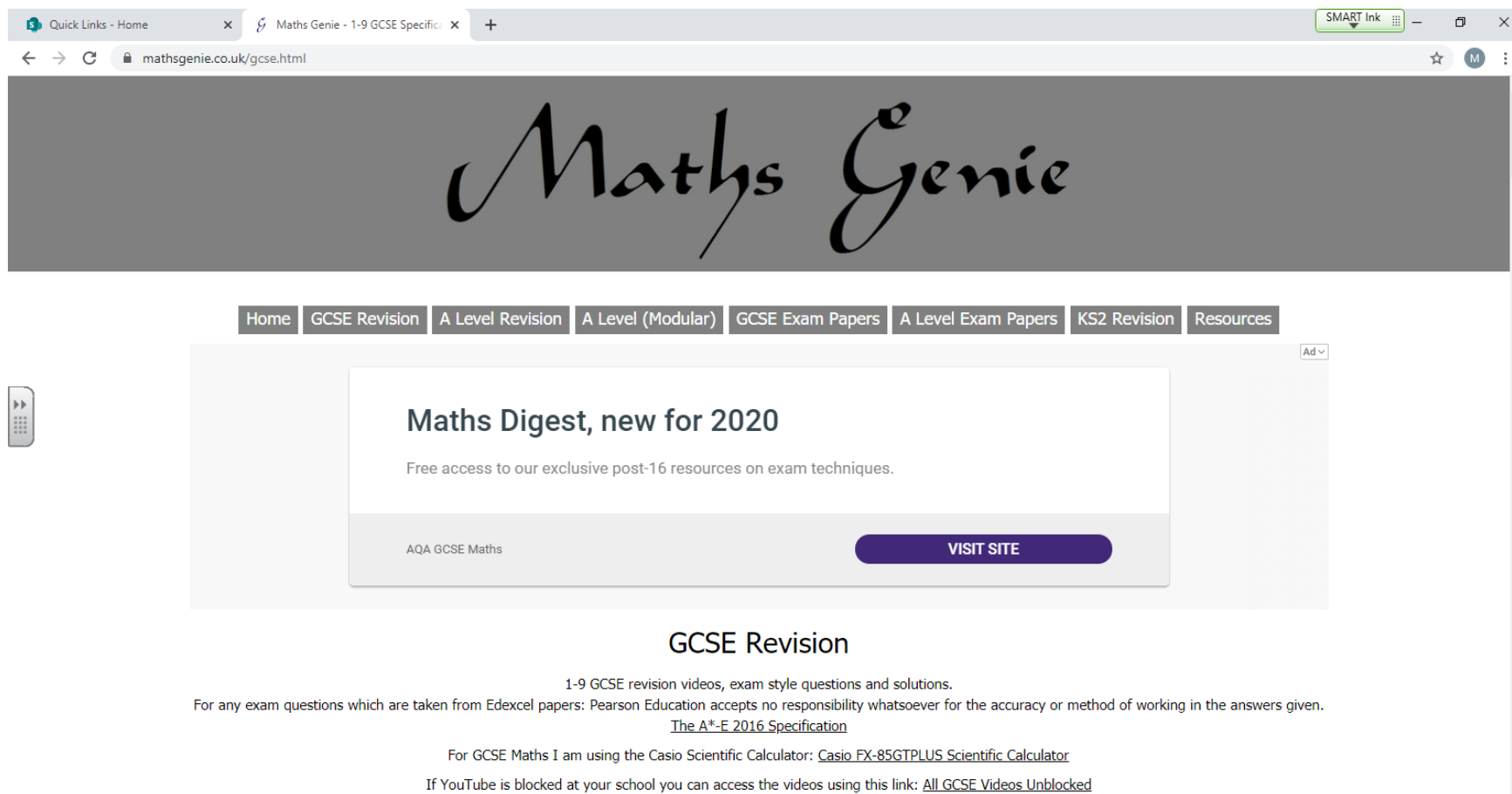
Primary Study Cards



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How can students revise effectively for Maths?

Skills Practice – Maths Genie (mathsgenie.co.uk)



The screenshot shows a web browser window with the URL mathsgenie.co.uk/gcse.html. The page features a large, stylized 'Maths Genie' logo at the top. Below the logo is a navigation menu with the following items: Home, GCSE Revision, A Level Revision, A Level (Modular), GCSE Exam Papers, A Level Exam Papers, KS2 Revision, and Resources. A prominent banner advertises 'Maths Digest, new for 2020', offering free access to exclusive post-16 resources on exam techniques. The banner includes the text 'AQA GCSE Maths' and a 'VISIT SITE' button. Below the banner, the page is titled 'GCSE Revision' and contains the following text:

1-9 GCSE revision videos, exam style questions and solutions.
For any exam questions which are taken from Edexcel papers: Pearson Education accepts no responsibility whatsoever for the accuracy or method of working in the answers given.
[The A*-E 2016 Specification](#)

For GCSE Maths I am using the Casio Scientific Calculator: [Casio FX-85GTPLUS Scientific Calculator](#)

If YouTube is blocked at your school you can access the videos using this link: [All GCSE Videos Unblocked](#)



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How can students revise effectively for Maths?

Grade 7

Videos	Exam Questions	Exam Questions Booklet	Solutions
Surds	Exam Questions	Surds	Solutions
Bounds	Exam Questions	Bounds	Solutions
Direct and Inverse Proportion	Exam Questions	Direct and Inverse Proportion	Solutions
Quadratic Formula	Exam Questions	Quadratic Formula	Solutions
Factorising Harder Quadratics	Exam Questions	Factorising Harder Quadratics	Solutions
Algebraic Fractions	Exam Questions	Algebraic Fractions	Solutions



How can students revise effectively for Maths?

Mathsgenie.co.uk	Please do not write on this sheet	Mathsgenie.co.uk
1. Write $\sqrt{48}$ in the form $k\sqrt{3}$, where k is an integer. (2 marks)	12. Rationalise the denominator $\frac{1+\sqrt{5}}{\sqrt{2}}$ (2 marks)	
2. Write $\sqrt{50}$ in the form $k\sqrt{2}$, where k is an integer. (2 marks)	13. Simplify $\frac{3+\sqrt{6}}{3}$ (2 marks)	
3. Write $5\sqrt{27}$ in the form $k\sqrt{3}$, where k is an integer. (2 marks)	14. Simplify fully $\frac{(4+2\sqrt{3})(4-2\sqrt{3})}{\sqrt{11}}$ You must show all your working. (3 marks)	
4. Write $7\sqrt{20}$ in the form $k\sqrt{5}$, where k is an integer. (2 marks)	15. Show that $\frac{5+2\sqrt{3}}{2+\sqrt{3}}$ can be written as $4 - \sqrt{3}$ (3 marks)	
5. Expand and simplify $(2 + \sqrt{3})(2 - \sqrt{3})$ (2 marks)	16. Show that $\frac{3\sqrt{3}+3}{3+\sqrt{3}}$ can be written as $\sqrt{3}$ (3 marks)	
6. Write $(3 + \sqrt{5})^2$ in the form $a + b\sqrt{5}$ where a and b are integers (2 marks)	17. Show that $\frac{1}{\frac{1}{\sqrt{2}}+\sqrt{2}}$ can be written as $\frac{\sqrt{2}}{3}$ (2 marks)	
7. Expand and simplify $(2 + \sqrt{5})(1 - \sqrt{5})$ (2 marks)		
8. Write $(3 - \sqrt{2})^2$ in the form $a + b\sqrt{2}$ where a and b are integers (2 marks)		



How can students revise effectively for Maths?

Quick Links - Home x 7-surds.pdf x +

mathsgenie.co.uk/resources/7-surds.pdf

7-surds.pdf 1 / 8

Name: _____

GCSE (1 – 9)

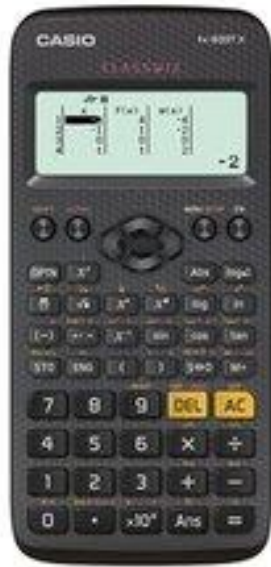
Surds

Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

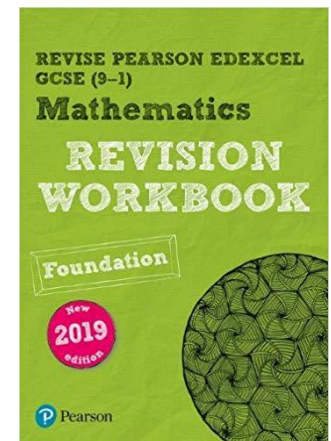
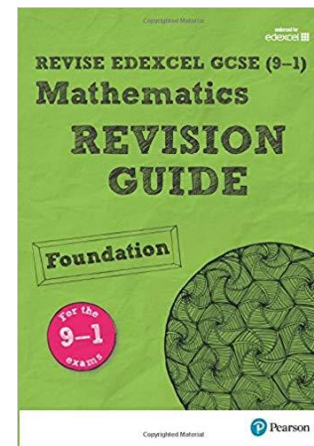
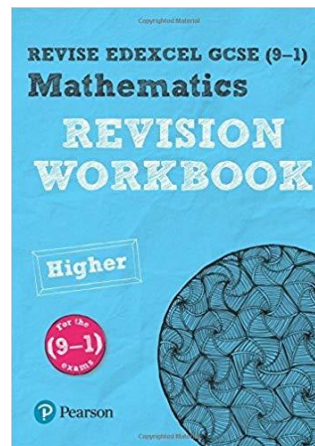
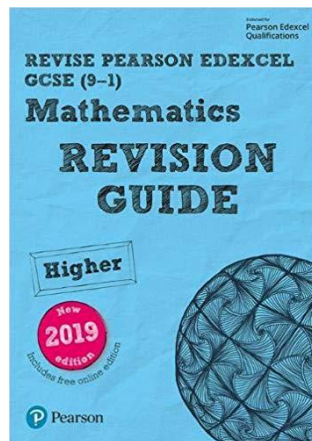
Information



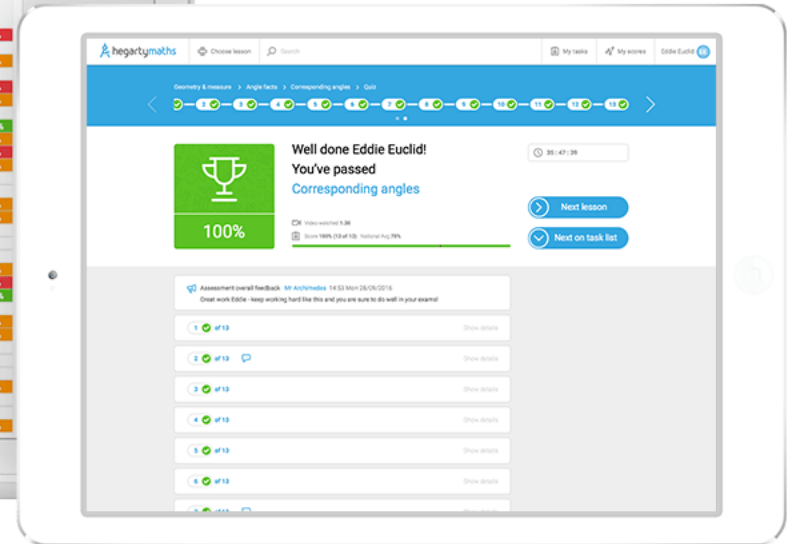
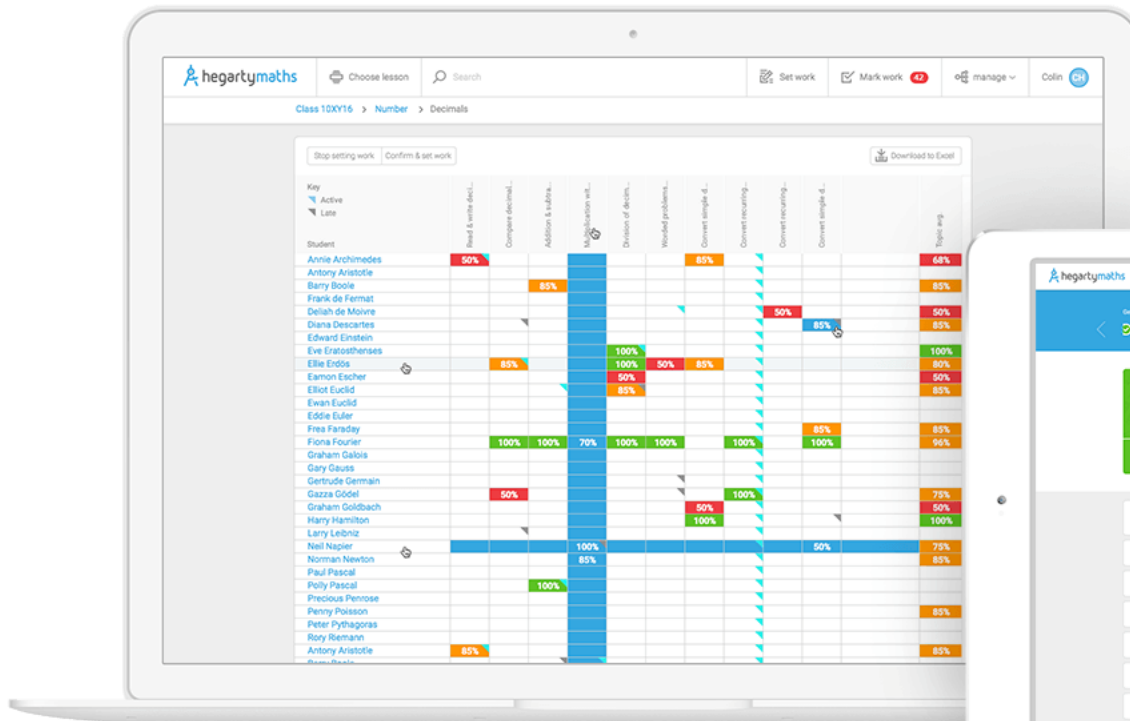


Casio FX83 scientific calculator

Pearson Edexcel GCSE (9-1)
revision guide and workbook



How does *Hegarty Maths* work and what are the benefits?



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How does *Hegarty Maths* work and what are the benefits?



Student log in

Teacher log in

Enter your details

Logging into **Gordon's School**. Not your school?

First name

Last name

What's this for?

1 ▼ January ▼ 2016 ▼

What's this for?

Next



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How does *Hegarty Maths* work and what are the benefits?



Progress

Set work

Search HegartyMaths

Mark work



Manage



Peter

Strands

Number

Skills 1-150, 743-772, 774-777

Avg score **0%** HegartyMaths avg **81%**

Video watched **0.00hrs**

Mastered **0%** of this strand



Algebra

Skills 151-327, 778-811, 874-943

Avg score **0%** HegartyMaths avg **69%**

Video watched **0.00hrs**

Mastered **0%** of this strand



Ratio, proportion & rates of change

Skills 328-348, 739-742, 864-871

Avg score **0%** HegartyMaths avg **65%**

Video watched **0.00hrs**

Mastered **0%** of this strand



Geometry & measure

Skills 455-461, 477-565, 567-606, 608-669, 674-738, 812-863

Avg score **0%** HegartyMaths avg **70%**

Video watched **0.00hrs**

Mastered **0%** of this strand



Probability & sets

Skills 349-391, 670-673

Avg score **0%** HegartyMaths avg **63%**

Video watched **0.00hrs**

Mastered **0%** of this strand



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How does *Hegarty Maths* work and what are the benefits?

How can students make sure they are revising the correct skills?

Assessment Title: Year 11 Maths Mock Paper 1 - Higher Tier

12th November 2019

NSA: Hegarty Maths
Clip Number

Questions	Question Title	Score	Clip Number
1a	Adding mixed numbers	2 / 2	66
1b	Dividing mixed numbers	2 / 2	70
2	Share in a given ratio	3 / 3	333
3	Percentage profit	4 / 4	760
4a	Speed, estimate complex calculations	1 / 3	719, 131
4b	Speed	1 / 1	719
5a	Plans and elevations	1 / 2	838
5b	Surface area of a pyramid	3 / 4	0
6	Gradient, quadrilaterals	3 / 5	199, 204, 824
7	Combined transformations	1 / 2	657
8	Share in a given ratio, area of a triangle	4 / 4	332, 557
9a	Index form (powers of unit fractions)	0 / 1	108
9b	Index form (power of 0 and 1)	1 / 1	103
9c	Index form (powers of non-unit fractions)	0 / 2	109
10a	Box plots	3 / 3	435
10b	Box plots	2 / 2	436
11	Circle theorems	0 / 5	599, 603, 605
12	Direct algebraic proof	0 / 4	325, 327
13	Expand single brackets with surds	0 / 2	116

