A photograph of Steve Jobs, co-founder of Apple, standing on a stage with his hands clasped. He is wearing his signature black turtleneck and glasses. The background is dark with blue vertical light streaks.

Great things in business are never done
by one person, they're done by a **team** of people.

— Steve Jobs —



Mathematics

2024 Year 10: How to succeed

Mathematics

Y10/Y11 Maths Key Dates 2024-2025

Maths Assessments:

Y10 Mock exams: w/c 15th April 2024 – Full GCSE Calculator paper

Y11 Assessment: w/c 14th October

Y11 MOCK Exams – w/c 24th February 2023

GCSE Exams:

Thursday 15th May 2025 - Paper 1 (calculator)

Wednesday 4th June 2025 - Paper 2 (non-calculator)

Wednesday 11th June 2025 - Paper 3 (calculator)

Further Maths Exams:

10th June 2025 - Paper 1 (non-calculator)

18th June 2025 – Paper 2 (calculator)


Equipment

Your teachers expect you to have the following equipment in every lesson and exam. If you have your own, then you can use it in exam practice at home.

Pen, pencil, ruler, protractor, compasses :
These are available in the learning resource centre.

Scientific calculator:

If you do not already have one, we recommend this new model:
(Available at supermarkets or online)



New Casio FX-83GTCW Black Scientific Calculator

[Visit the Casio Store](#)

4.7 ★★★★★ 23,990 ratings

Amazon's Choice for "casio calculator"

-18% £13⁵⁹

RRP: £16.49 ⓘ

FREE Returns ▾

Voucher: ☐ Apply £0.94 voucher [Terms](#)

Save 5% on any 4 [qualifying items](#) > | [Terms](#)

Be efficient: Plan your time and use it well



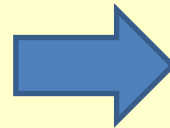
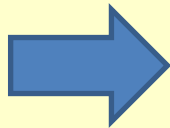
A handwritten revision timetable on a piece of paper. The title 'REVISION TIMETABLE' is written in large, bold, capital letters at the top. Below the title is a table with columns for the days of the week: MON, TUE, WED, THUR, FRI, SAT, and SUN. The rows are for subjects: Maths, Biology, and History. The 'THUR' column is further divided into five numbered rows (1, 2, 3, 4, 5). The 'HISTORY - KEY FACTS' is written across the bottom of the table.

REVISION TIMETABLE						
MON	TUE	WED	THUR	FRI	SAT	SUN
Maths	English		1.			
Biology	Spanish		2.			
History			3.			
			4.			
			5.			
HISTORY - KEY FACTS						

Practice exam papers and resources are on Student Sharepoint



Bradfield School SharePoint

[illegible]

Our exam board is OCR but maths is maths so all the other exam boards' papers are relevant too.

Practice exam papers and resources are on Student Sharepoint



Bradfield School SharePoint



01 N2.6 Video Writing...
August 7, 2023



02 N2.6 Writing num...
August 7, 2023



02 N2.6 Writing Stan...
October 4, 2023



03a Mymaths Lesson ...
August 7, 2023



03b Mymaths Lesson ...
August 7, 2023



04 N2.6 Practising skil...
August 7, 2023



05 N2.6 Developing fl...
August 7, 2023



06 N2.6 Problem solvi...
August 7, 2023



07 N2.6 Reviewing ski...
August 7, 2023



08 N2.6 Answers - Wr...
August 7, 2023

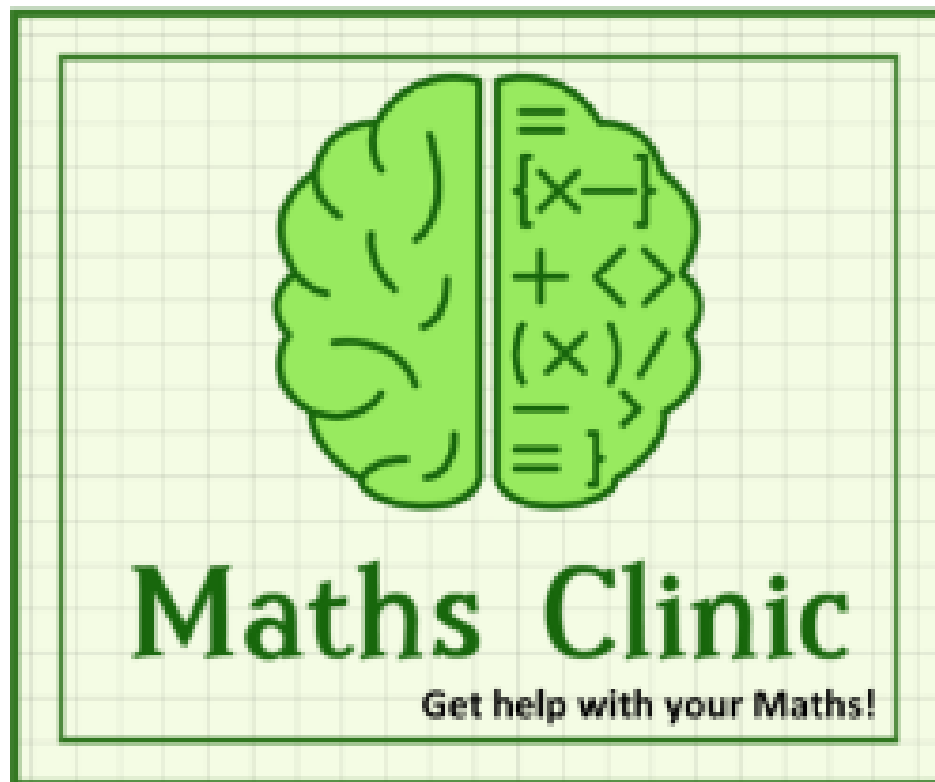


09a Mymaths Homew...
August 7, 2023



09b Mymaths Home...
August 7, 2023

Help after school



Tuesday 3pm-4pm
Maths Rooms (C1 Corridor)
Everyone Welcome!

[Log out](#)[Help](#)[Teacher Dashboard](#)[My portal login](#)

Select Curriculum

GCSE 9-1 (England) ▼

[Library](#)[Number](#)[Algebra](#)[Ratio and proportion](#)[Geometry](#)[Probability](#)[Statistics](#)[+ Revision and assessment](#)[+ Activities](#)[Games](#)[Tools](#)

Number

[Filter](#)[Place value](#)[Multiples and factors](#)[Add subtract whole](#)[Times tables](#)[Multiply divide whole](#)[Negative numbers](#)[Decimals](#)[Fractions](#)[Percentages](#)[Powers and roots](#)[Standard form](#)[Standard units](#)[Estimating and accuracy](#)[Calculators](#)[G1 Place value hundreds thousands](#)

Using thousands, hundreds, tens and ones. Ordering whole numbers, decimals and negatives.

[Lesson](#)[Online homework](#)[G1 Place value beyond 10000](#)[G1 Ordering whole numbers](#)[G23 Inequalities and intervals](#)[G1 Mini investigations](#)[G1 Billionaire](#)

School username: bradfs

School password: circle

All students have a Portal login where teachers set work, and results from previous homework is saved

Mymaths.co.uk – Student portal

See homework that has been set by teachers

The screenshot shows the Mymaths.co.uk Student portal. At the top, there is a dark blue navigation bar with a user profile icon (a circle of dots) on the left, followed by 'Log out' and 'Help' links. A search bar with a magnifying glass icon is on the right, along with a 'Demo Student' button and another 'Log out' button. Below the navigation bar, the left sidebar contains a 'My Homework' button (circled in red) and a 'My Feed' button with a red badge showing '39'. Below these are links for 'Select Curriculum' (GCSE 9-1 (England)), 'My Results', 'My Progress', 'My Revision', 'Library', 'Revision and assessment', and 'Activities'. The main content area is titled 'My Homework' with the subtitle 'Complete these tasks set by your teacher'. It features a 'Show' dropdown menu set to 'Oldest first'. The homework tasks are listed in a table with columns for task details and status. The first task is 'Equation of a line 2' (G45), which is 'Overdue'. It includes a description: 'More about how to use the equation $y=mx+c$. Rearranging the equation to find gradient and intercept. Identifying parallel lines.' and buttons for 'Lesson', 'Online homework', and 'Videos'. Below this are five more tasks, all marked as 'Overdue': 'Indices 2' (G45), 'Rearranging 1' (G45), 'Reverse percentages' (G23), 'Significant figures' (G23), and 'Standard form' (G23).

Task	Status
G45 Equation of a line 2 More about how to use the equation $y=mx+c$. Rearranging the equation to find gradient and intercept. Identifying parallel lines. Lesson Online homework Videos Start date: 14 Jul Date due: 04 Sep	Overdue
G45 Indices 2	Overdue
G45 Rearranging 1	Overdue
G23 Reverse percentages	Overdue
G23 Significant figures	Overdue
G23 Standard form	Overdue

School username: bradfs

School password: circle

Ask Maths teacher for **portal login** and **portal password**:

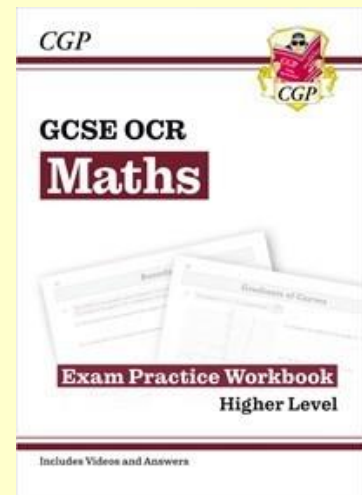
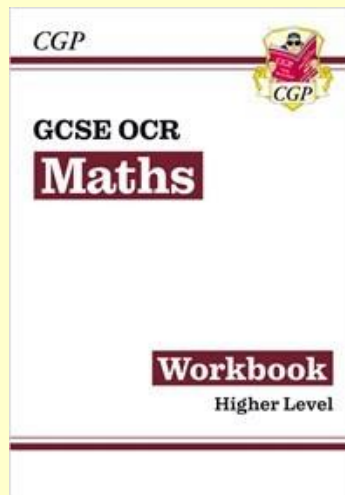
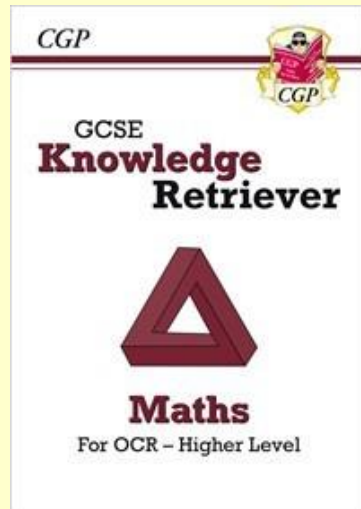
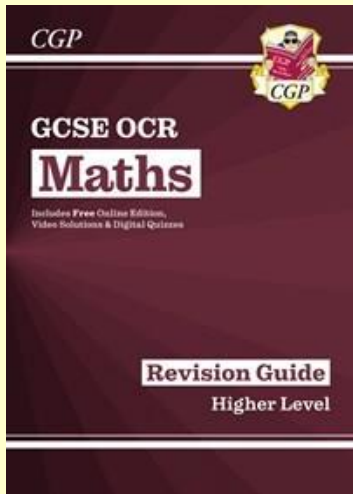
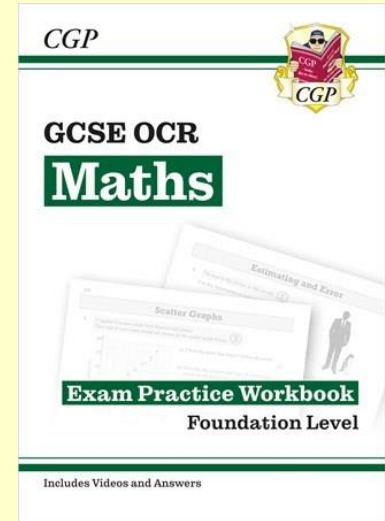
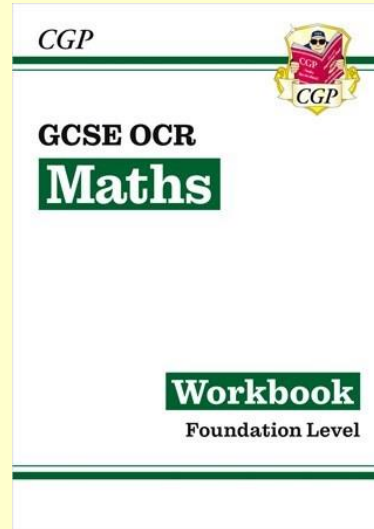
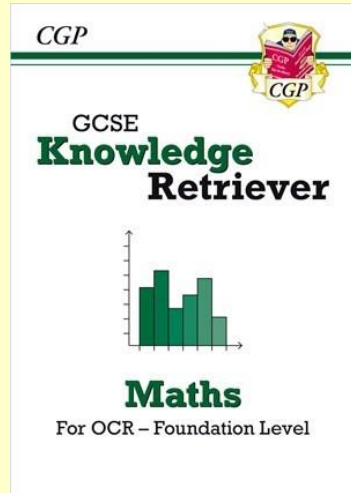
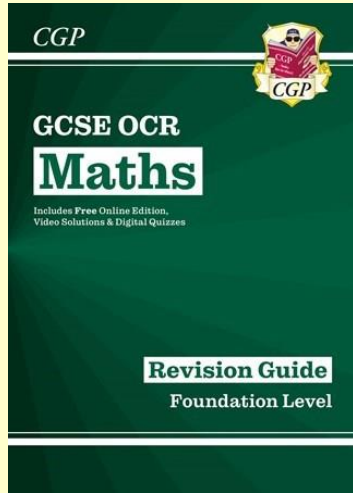
Mymaths.co.uk – Student portal

Sort your results by lowest percentage – upgrade this work

The screenshot shows the Mymaths.co.uk Student portal interface. The top navigation bar includes a logo, 'Log out', 'Help', a search bar, and a 'Demo Student' profile with a 'Log out' button. The left sidebar contains navigation links: 'My Homework', 'My Feed' (with a red badge showing '39'), 'Select Curriculum' (set to 'GCSE 9-1 (England)'), 'My Results' (highlighted with a red circle and arrow), 'My Progress', 'My Revision', 'Library', and 'Revision and assessment'. The main content area is titled 'My Results' and displays a table of results. The 'Sort by' dropdown menu is highlighted with a red circle and arrow, showing 'Percent' selected. The table lists various topics with their corresponding percentages and icons.

Topic	Percentage	Icon	Action
(G23) Multiplying fractions	24%	🏆	f
(G1) Function machines	44%	🏆	f
(G23) Arithmetic sequences	48%	🏆	f
(G23) Stem and leaf diagrams	50%	🏆	f
(G23) Generating sequences	57%	🏆	f
(G23) Best buys and value for money	65%	🏆	f
(G23) Rounding decimals	70%	🏆	f

Make use of revision guides



[These are available via from CGP](#)

Make use of revision guides

- Look up key concepts
- Use to make accurate flash cards

The guides may not tell you exactly how to do an exam question but they can remind you of methods that might help.

CGP

GCSE
Maths
For the

The
Higher

Includes 1000+ examples

Contents

82

Section One — Numbers

Types of Number and BODMAS
Multiples, Factors and Prime
LCM and HCF
Fractions
Fractions, Decimals and Percentages
Rounding Numbers
Estimating
Bounds
Standard Form
Revision Questions for Section One

Section Two — Algebra

Algebra Basics
Powers and Roots
Multiplying Out Brackets
Factoring
Manipulating Surds
Solving Equations
Rearranging Formulas
Factoring Quadratics
The Quadratic Formula
Completing the Square
Algebraic Fractions
Sequences
Inequalities
Graphical Inequalities
Iterative Methods
Simultaneous Equations
Proof
Functions
Revision Questions for Section Two

Section Three — Geometry

Straight Lines and Gradients
 $y = mx + c$
Drawing Straight Line Graphs
Coordinates and Ratio
Parallel and Perpendicular Lines
Quadratic Graphs
Harder Graphs

Throughout this guide
You can use the
But remember -

Direct and Inverse Proportion

There can sometimes be a lot of **information** packed into proportion questions, but the **method** of solving them always stays the same — have a look at this page and see what you think.

Direct Proportion

- 1) Two quantities, A and B, are in **direct proportion** (or just in **proportion**) if increasing one increases the other one **proportionally**. So if quantity A is doubled (or tripled, halved, etc.), so is quantity B.
- 2) Remember this **golden rule** for direct proportion questions:

DIVIDE for ONE, then TIMES for ALL

EXAMPLE:

Hannah pays £3.60 per 400 g of cheese.
She uses 220 g of cheese to make 4 cheese parties.
How much would the cheese cost if she wanted to make 50 cheese parties?

NEVER FORGET TO CHECK
There will always be lots of things
to direct proportion questions
— keep track of what's packed
marked out at each stage
of the problem!

In 1 party there is 220 g ÷ 4 = 55 g of cheese
So in 50 parties there is 55 g × 50 = 2750 g of cheese
1 g of cheese would cost: £3.60 ÷ 400 = 0.9p
So 2750 g of cheese would cost: 0.9 × 2750 = 2475p = £24.75

Inverse Proportion

- 1) Two quantities, D and I, are in **inverse proportion** if increasing one quantity causes the other quantity to **decrease proportionally**. So if quantity D is **doubled** (or tripled, halved, etc.), quantity I is **halved** (or divided by 3, doubled etc.).
- 2) The rule for finding inverse proportions is:

TIMES for ONE, then DIVIDE for ALL

EXAMPLE:

4 balloons can decorate 100 cakes in 5 hours.

- a) How long would it take 10 balloons to decorate the same number of cakes?
100 cakes will take 1 balloon: $5 \times 4 = 20$ hours
So 100 cakes will take 10 balloons: $20 \div 10 = 2$ hours for 10 balloons
- b) How long would it take 11 balloons to decorate 220 cakes?
100 cakes will take 1 balloon: 20 hours
1 cake will take 1 balloon: $20 \div 100 = 0.2$ hours
220 cakes will take 1 balloon: $0.2 \times 220 = 44$ hours
220 cakes will take 11 balloons: $44 \div 11 = 4$ hours

NEVER FORGET TO CHECK
The number of balloons is **inversely proportional** to number of hours —
but the number of cakes is **directly proportional** to the number of hours.
You can use the golden rule for each part!

Calm down, you're blowing this page all out of proportion...

Q1 It costs £43.20 for 8 people to go on a rollercoaster 6 times.
How much will it cost for 15 people to go on a rollercoaster 5 times?

[4 marks]

Q2 It takes 2 carpenters 4 hours to make 3 bookshelves.
How long would it take 5 carpenters to make 10 bookshelves?

[4 marks]

Section Four — Ratio, Proportion and Rates of Change

Contents

☒ Use the tick boxHow to Use This Book
Exam Tips

Section One

Ordering Numbers and
Addition and Subtraction
Multiplying and Dividing
Multiplying and Dividing
Negative Numbers
Special Types of Numbers
Prime Numbers, Multiples
Prime Factors, LCM
Fractions, Decimals and
Equivalent Fractions
Fractions
Proportion Problems
Percentages
Ratios
Rounding Off and Estimation
Powers and Roots

Section Two

Simplifying Terms
Multiplying Out Brackets
Taking Out Common Factors
Solving Equations
Writing Equations
Using Formulas
Writing and Rearranging
Number Patterns and Sequences
Trial and Improvement
Inequalities


Section Three

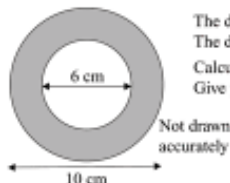
Coordinates and Maps
Straight-Line Graphs
Travel Graphs
Conversion Graphs
Real-Life Graphs
Quadratic Graphs

Section Four

Symmetry and Tessellations
Properties of 2D Shapes
Congruence and Similarity
3D Shapes
Projections

60


- 4 A letter "O" is formed by cutting a circular section from the centre of a circular piece of card. 

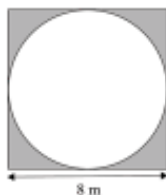


The diameter of the inside circle is 6 cm.
The diameter of the outside circle is 10 cm.
Calculate the area of the shaded region of the letter "O".
Give your answer to 3 significant figures.

..... cm²
[Total 4 marks]

FUNCTIONAL

- 5 Lucas has a square garden with sides of length 8 metres. 
The garden contains a circular paved area.



8 m


Lucas wants to sow grass seed on the unpaved parts (shaded below).
A packet of grass seeds will sow 0.5 m² of grass.
Calculate the number of packets that Lucas needs to buy.

Area of square = × = m²Area of circle = $\pi \times$ = m²Area of grass = - = m²

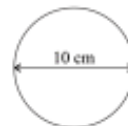
Number of packets of grass seed = ÷ 0.5 =

[Total 6 marks]

FUNCTIONAL

- 6 Zara is making cookies for a baking competition. 
She makes them exactly 10 cm in diameter.

Zara wants to decorate the cookies with chocolate buttons.
She works out that there needs to be at least 3 cm² for each button.
What is the maximum number of buttons that she can put on each cookie?



[Total 5 marks]

Exam Practice Tip

Don't mix up radius and diameter — it seems obvious, but lots of people muddle them up in exams. The radius of a circle is half of its diameter. Think carefully about which one you're being given, and which one you need for a formula. You won't be given the formulas in the exam, so make sure you know them off by heart.

Score

29

Practise key concepts you've looked up in exam-style questions.

The work books are aligned to the guides and answers are on the sharepoint.

In form time we have introduced the
Leitner Method for using 'Flash Cards'

parent24

How to study flashcards

using the Leitner system

Make 'Flash Cards'

This will help improve recall and retention of information.
Great for A01 facts, definitions and formulae

What is alliteration?

Alliteration is when a sound is repeated over two or more words.
e.g. Donate to deserving causes.

What is an expert opinion?

An **expert opinion** is when the writer quotes a professional point of view.
e.g. Professor Smith says that "..."

Flash cards are another method of **self-quizzing**.
You can make them, buy them, or even find them online.

If you like to use online flashcards:

Quizlet

Useful Websites

mathsgenie.co.uk

Maths Genie GCSE Revision GCSE Papers ▼ A Level Revision A Level Papers ▼ KS2 Revision Resources

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Video tutorials, practice exam style questions and answers.

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Edexcel GCSE past papers with model solutions and video explanations.

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AQA GCSE past papers with model solutions.

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Upcoming GCSE Exams

Useful Websites

[Dr Frost Maths: Foundation](#) OCR

[Dr Frost Maths Higher](#) OCR

[Dr Frost Maths – Level 2 Certificate: Further Maths](#) AQA

Courses → Publishers → OCR		
GCSE Foundation		
OCR 1 Number Operations and Integers 1.01 Calculations with integers 1.02 Whole number theory 1.03 Combining arithmetic operations 1.04 Inverse operations	OCR 2 Fractions, Decimals and Percentages 2.01 Fractions 2.02 Decimal fractions 2.03 Percentages 2.04 Ordering fractions, decimals and percentages	OCR 3 Indices and Surds 3.01 Powers and roots 3.02 Standard form 3.03 Exact calculations
OCR 4 Approximation and Estimation 4.01 Approximation and estimation	OCR 5 Ratio, Proportion and Rates Of Change 5.01 Calculations with ratio 5.02 Direct and inverse proportion 5.03 Discrete growth and decay	OCR 6 Algebra 6.01 Algebraic expressions 6.02 Algebraic formulae 6.03 Algebraic equations 6.04 Algebraic inequalities 6.05 Language of functions 6.06 Sequences
OCR 7 Graphs of Equations and Functions 7.01 Graphs of equations and functions 7.02 Straight line graphs	OCR 8 Basic Geometry 8.01 Conventions, notation and terms 8.02 Ruler and compass constructions	OCR 9 Congruence and Similarity 9.01 Plane isometric transformations 9.02 Congruence




Useful Websites

corbettmaths.com

The screenshot shows a web browser window with the address bar displaying <https://corbettmaths.com/>. The website's header features a logo of a stylized 'C' with a play button inside, followed by the text 'Corbettmaths'. Below the header is a navigation menu with the following items: 'Welcome', 'Videos and Worksheets' (highlighted with a red circle), 'Primary', '5-a-day', 'More', and 'Revision Cards'. The main content area on the left includes the text 'Welcome', '5-a-day', 'Videos', and 'Worksheets' in large, colorful, stylized fonts. On the right side, there is a blue box titled 'GCSE Revision Cards' which contains an image of a stack of cards and the text 'Available for GCSE Higher or Foundation Tier'. Below this box, the text 'Primary Study Cards' is partially visible. The browser's address bar at the bottom shows the URL <https://corbettmaths.com/5-a-day/>.

What can parents do to support?

- Ensure there is time and space to work
- Provide access to equipment (pens, pencils, ruler, protractor, compasses, scientific calculator.
- Support in making and keeping to a revision timetable
 - 30 minute of maths every day.
- Don't worry about 'new' vs. 'old' methods - any method that leads logically to a correct answer is a correct method.

A photograph of Steve Jobs, co-founder of Apple, standing on a stage with his hands clasped. He is wearing his signature black turtleneck and glasses. The background is dark with blue vertical light beams.

Great things in business are never done
by one person, they're done by a **team** of people.

— Steve Jobs —



Mathematics

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