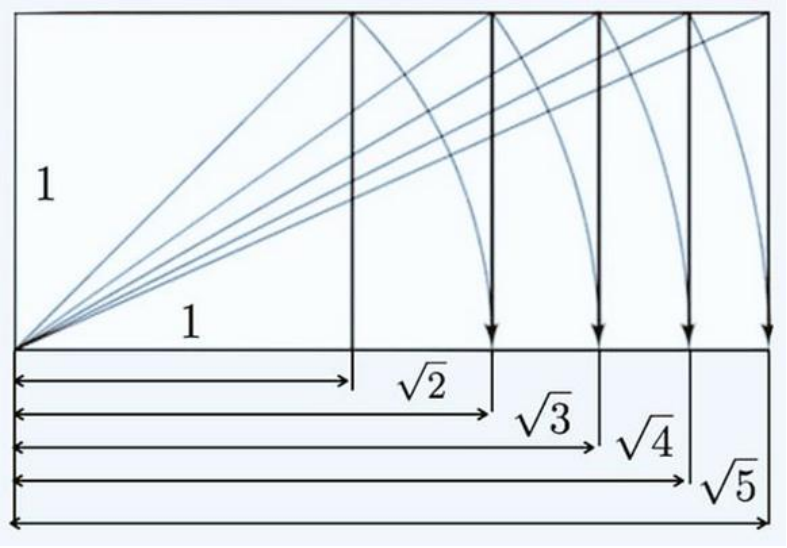
A Level Maths & Further Maths

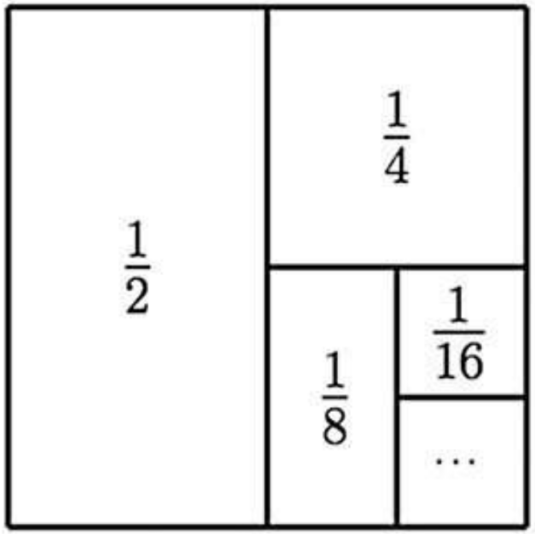
Dynamic Rectangles are rectangles Generated from the unit square



Square roots of positive integers are constructible

The sum of these infinite fractions of the unit square, equals one

$$\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\frac{1}{16}+\frac{1}{32}+\cdots=1.$$



The sum of these infinite fractions, is finite

A Level Maths & Further Maths

Pearson Edexcel Level 3 Advanced:

GCE in Mathematics (9MA0)
GCE in Further Mathematics (9FM0)

First teaching from September 2017

Aims of the Session

- What is A Level Maths like in the 6th Form?
- Why Choose A Level Maths or Further Maths?
- Why Choose Beechen Cliff School?

A Level Maths Teachers 2025 - 2026

Mr Burnby
Head of Maths

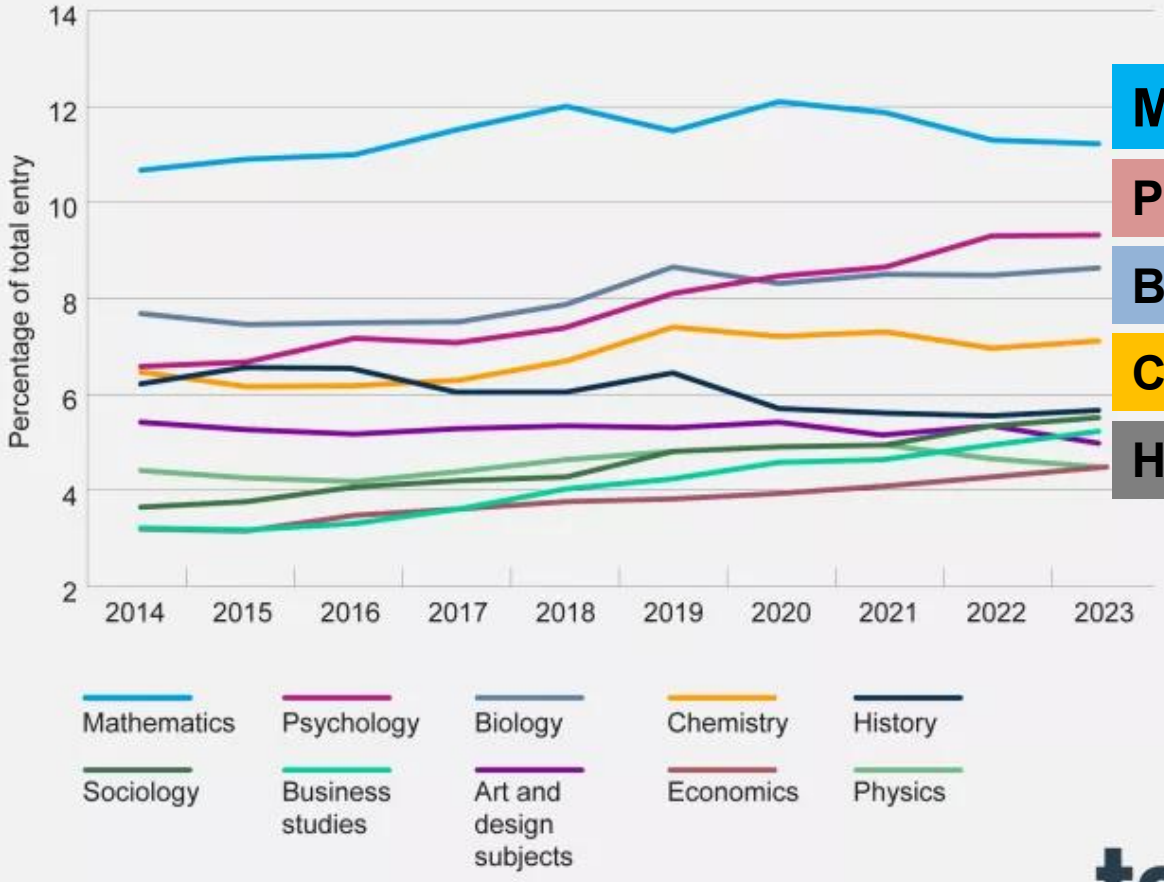
Mrs Down
Core Maths

Mrs Pretorius

Mrs Hearle

Mr Henly
A Level Maths

Top ten GCE A-level subjects as a percentage of the total entry over the period 2014 to 2023



Source: Joint Council for Qualifications

tes magazine

Maths

Psychology

Biology

Chemistry

History

2025 – 2026 6th Form Maths Groups

In the Lower 6th

A Level Maths:	68 students	91 A-Level
Further Maths:	23 students	
Core Maths:	24 students	

In the Upper 6th

A Level Maths:	41 students	52 A-Level
Further Maths:	11 students	
Core Maths:	20 students	

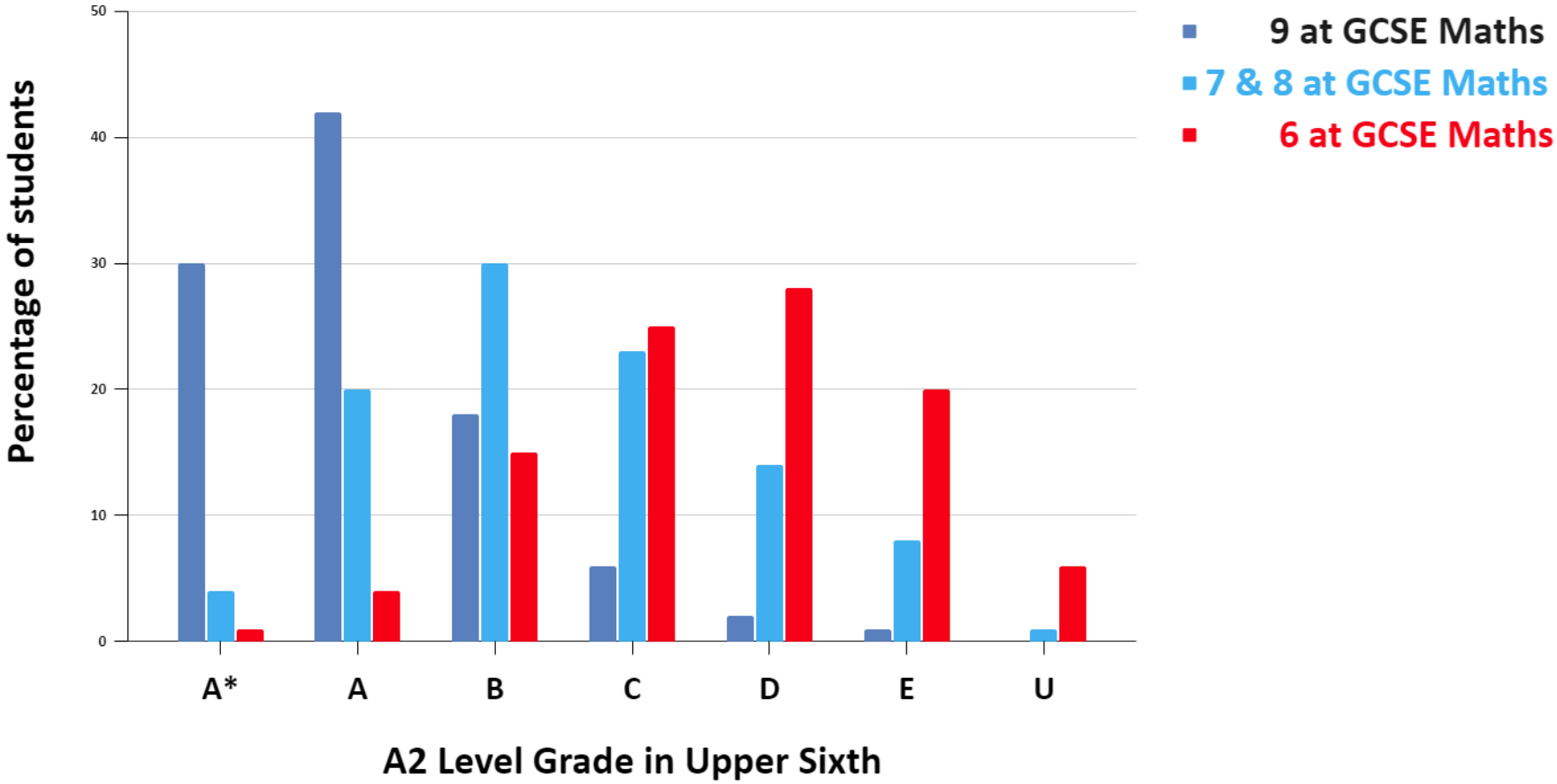
A Level Maths Requirements

- **Grade 7 at GCSE is now the minimum requirement to study A Level Maths in the Lower Sixth at Beechen Cliff School.**

However, the grade 7 boundary at GCSE was 65% last year, whilst a grade 6 was only 50%, which is not great starting place! ... So aim as high as you can!

- ***Historically, in the old format of four AS subjects taken in the lower 6th, then dropping to three A2 subjects in the upper 6th, the *national picture for GCSE grade "B students and below", was that 90% dropped the Maths module at the end of the lower 6th in favour of their other 3 subjects. Which basically says given the choice, middling students left in their droves at the end of the first year! (*National picture, not BCS)***

Chances Graph: Converting GCSE Maths Grade to A Level Maths Grade



Lessons and Private Study

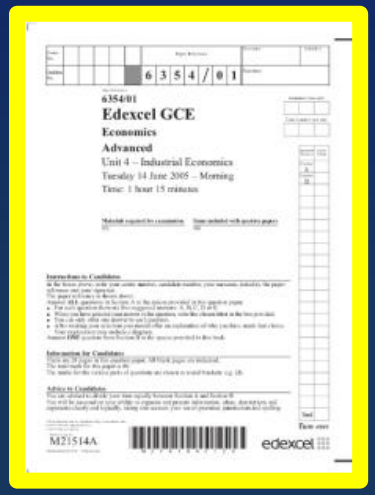
- Each "**A level Maths**" group is allocated **4 one** hour lessons, each week, and split between 2 teachers.

- Private Study:
  An equal amount of time of study is expected outside of lessons as it is in lessons

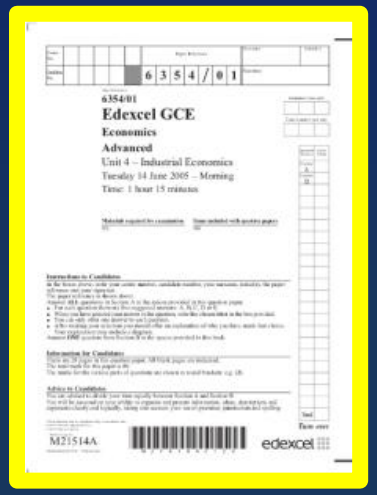
A Level Maths – Exam Structure

- 3 Papers at the end of the course in the Upper 6th
- The Papers are equally weighted (100 marks each)
- Each paper is 2 hrs long, Calculators allowed in all

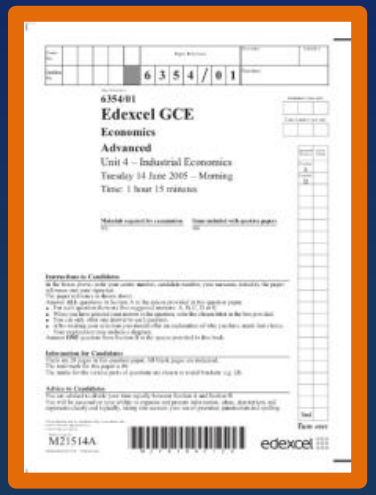
Paper 1
Pure Maths


6354/01
Edexcel GCE
Economics
Advanced
Unit 4 – Industrial Economics
Tuesday 14 June 2005 – Morning
Time: 1 hour 15 minutes
M21514A
edexcel

Paper 2
Pure Maths


6354/01
Edexcel GCE
Economics
Advanced
Unit 4 – Industrial Economics
Tuesday 14 June 2005 – Morning
Time: 1 hour 15 minutes
M21514A
edexcel

Paper 3
Applied Maths

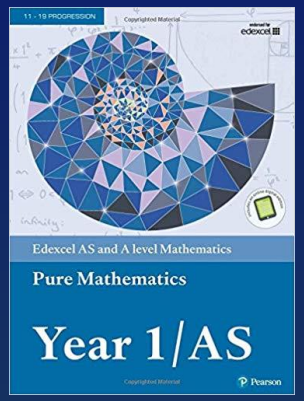

6354/01
Edexcel GCE
Economics
Advanced
Unit 4 – Industrial Economics
Tuesday 14 June 2005 – Morning
Time: 1 hour 15 minutes
M21514A
edexcel

Pearson - Text Books for Edexcel

Pupils are expected to buy their own text books

ISBN Details are supplied to pupils after the GCSEs and on induction

Year 1
AS Pure

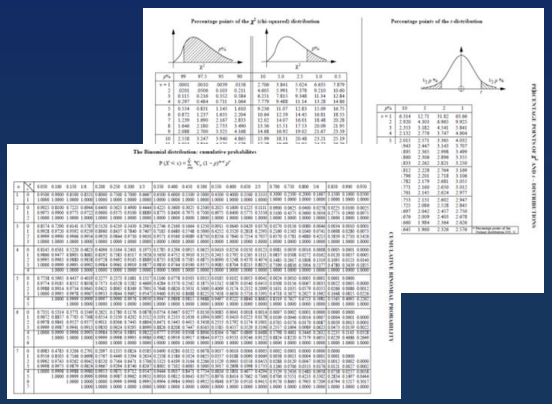


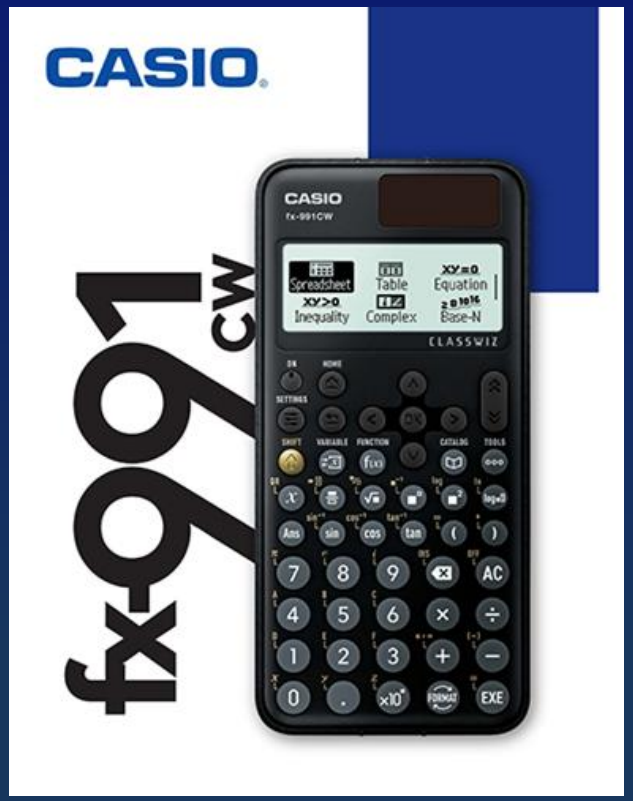
Year 1
AS Stats & Mechanics

Formula Book & Calculator Requirements

CASIO 991 cw

Statistical Tables and some Maths Formulae will be provided in the Examinations



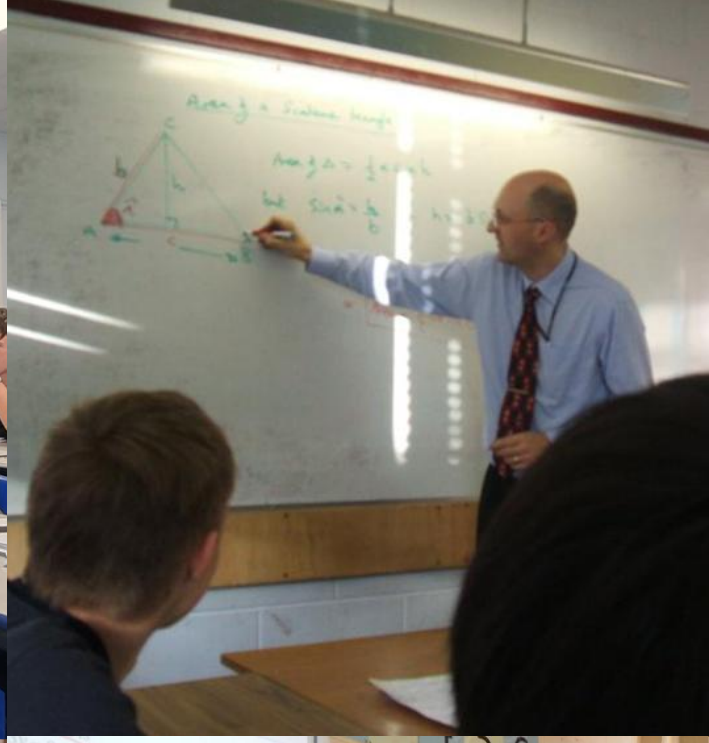


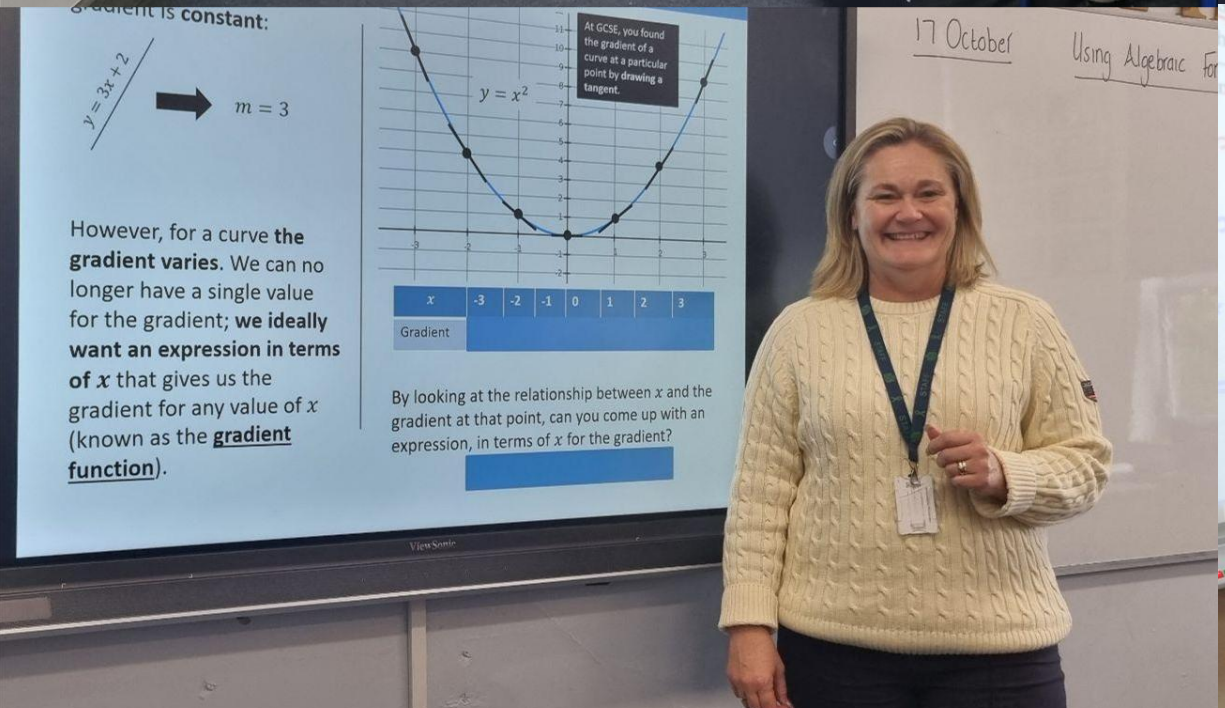
Requirements

Stats Mode

Probability Distributions

ANS Button




gradient is constant:
y = 3x + 2
m = 3
However, for a curve the gradient varies. We can no longer have a single value for the gradient; we ideally want an expression in terms of x that gives us the gradient for any value of x (known as the gradient function).
y = x²
At GCSE, you found the gradient of a curve at a particular point by drawing a tangent.
x -3 -2 -1 0 1 2 3
Gradient
By looking at the relationship between x and the gradient at that point, can you come up with an expression, in terms of x for the gradient?
17 October
Using Algebraic

Further Maths - Course Requirements

For Further Maths we recommend a grade 8 or 9 at GCSE.

Students are most likely to be from the top set and potentially have GCSE Further Maths.

Further Maths

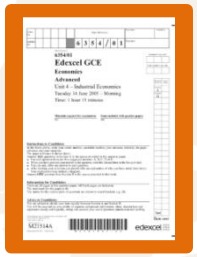
- **Students receive 7 hours of lessons per wk.**
- **Further Maths lessons are taken across two option blocks on the timetable.**
- **When making Sixth Form subject options, Maths and Further Maths are two separate options.**
  You just select one, (not both).

A2 Further Maths

Further Maths students follow a different timetable.

FM sit both **A Level Maths** and **A2 Further Maths** at the end of the **Upper 6th** (except in exceptional circumstances where they may sit Maths at the end of the lower 6th)

A2 Further Maths comprises of **4 papers**:
each **1 hour 30 minutes** long



Core Pure 1

Core Pure 2

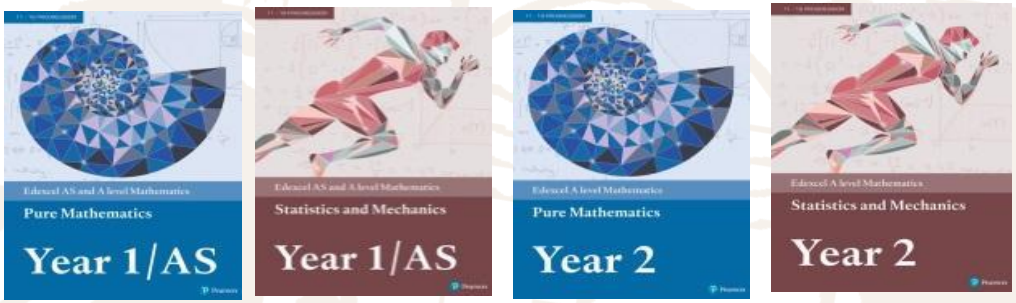
Option 1 Further Statistics

Option 2 Further Mechanics

Options from:

Statistics	1 & 2
Mechanics	1 & 2
Decision	1 & 2
Pure	3 & 4

Textbook Requirements



Lower 6th

Upper 6th

Textbook ISBN details & Calculator Information

1) Google: bcs maths weebly

2) Select:

Weebly.com
https://beechencliffmaths.weebly.com

Beechen Cliff Maths Department Official Website

Beechen Cliff Maths Department - Official Weebly Website.

3) Select:

A Level Textbook & Calculator Info

Why is A level Mathematics so useful?

- Studying Mathematics helps you to think logically & analytically and helps to solve problems methodically.
- These are transferable skills, which are useful in all walks of life.
- Employers find these skills particularly desirable, if not essential.
- People who have A level Mathematics earn, on average, 10% more than those who don't!

Jobs that require A Level Maths

- Civil engineer
- Electronic engineer
- Pharmacist
- Systems analyst
- Actuary
- Accountant
- Physicist
- Air traffic controller
- Environmental scientist
- Computer game designer
- Architect
- Audio software engineer
- Music technologist
- Film analyst
- Speech Therapist
- Furniture designer
- Media technology
- Surveyor
- Computer analyst
- Marketing
- etc

A2 Maths Results for last 6 years

Linear Exam

Year	A*	A	B	C	D	E	U	Total
2025	**18**	**17**	**10**	**3**	**5**	**1**	**0**	**54**
2024	9	24	9	11	5	6	2	66
2023	9	19	12	16	8	6	0	70
2022	14	11	11	9	10	3	2	60
2021†$_{TAG}$	15	28	10	9	3	3	0	68
2020†$_{CAG}$	18	26	22	21	11	2	0	100
Totals:	**83**	**125**	**74**	**69**	**42**	**21**	**4**	**418**
Percentages	**20%**	**30%**	**18%**	**17%**	**10%**	**5%**	**1%**	**100%**

68%

COVID

A2 Further Maths Results

Linear Exam

Year	Entries	A* - B
2025	**11**	**100%**
2024	11	91%
2023	7	71%
2022	9	78%
2021† TAG	13	100%
2020† CAG	11	92%
Average:	**10**	**89%**

COVID

Maths Extra Curricular Activities

- Senior Maths Challenge
- Senior Maths Team Challenge
- Enrichment events
- Maths Inspiration Lectures
- Talks from people using Maths in their careers

UNIVERSITY OF CAMBRIDGE

Rg

THE RUSSELL GROUP

2025

Further Maths and High Achievers in Maths

S Wilby	(A*A*)	– Mathematics at Imperial College London
T Manaton	(A*A*)	– Physics & Astronomy at Durham
R Vallis	(A*A*)	– Economics at LSE
H Plowright	(A*A)	– Mathematics at Birmingham
F Renison	(A*A)	– Maths with Finance at Exeter
A Gunnersson	(A*B)	– Mathematics at Sheffield
J Nunn	(A*B)	– Mathematics at Nottingham
A Lea-Williams	(A*B)	– Aerospace Engineering at Birmingham
J Vernalls	(A*B)	– Computer Science at Loughborough
J Johnson	(AA)	– Mechatronic and Robotic Engineering at Sheffield
T Orr	(AB)	– Natural Sciences at Birmingham
T Farrell	(A*)	– Medicine & Surgery at Newcastle
O Fishwick	(A*)	– Computer Science at Sheffield
N Norris	(A*)	– Civil Engineering at Sheffield
N Prynne	(A*)	– Geography at Oxford
O Richards	(A*)	– Economics at Bristol
B Weldon	(A*)	– Medicine at Exeter
O Donovan	(A)	– History at Birmingham
F Down	(A)	– Economics & Finance at Exeter
H Gore	(A)	– Neuroscience at Leeds
E Gould	(A)	– Product Design Engineering at Loughborough
A Kitteridge	(A)	– Mathematics at Exeter
G Kitteridge	(A)	– Physics at Leeds
A Lott	(A)	– Mechanical Engineering at Exeter
T McAdam	(A)	– Astrophysics at Cardiff
J Smith	(A)	– Medicine at Bristol
A Smith-Burrell	(A)	– Sports Science at Edinburgh
S Talbot	(A)	– History at Durham
C Wilkinson	(A)	– Mechanical Engineering at Leeds

2024

Further Maths and High Achievers in Maths

B Pearcey	(A*A*)	– Mathematics at Oxford
J Namdjou	(A*A*)	– Mathematics & Physics at Manchester
B Nightingale	(A*A*)	– Gap Year
G Jones	(A*A)	– Mathematics at Manchester
O Tooley	(A*A)	– Mechanical Engineering at Bristol
B Laing	(A*A)	– Electrical Engineering at Bath
J Reeves	(A*B)	– Mathematics at York
J Kelly	(A*B)	– Mechanical Engineering at Loughborough
L Peeroo	(AB)	– Mathematics at Exeter
J Gustard	(AB)	– Mechanical Engineering at Bristol
H Towner	(AC)	– Electrical Engineering at Sheffield

E Rorison	(A*)	– Medicine at Bristol
L McNeil	(A*)	– Natural Science at UCL
S Flemming	(A*)	– Economics & History at Leeds
M Williamson	(A*)	– Music at Leeds
R Best	(A)	– Electrical Engineering at Nottingham
K Bloomfield	(A)	– Natural Sciences at Nottingham
A Blair	(A)	– Management at LSE
H Browning	(A)	– Law at UCL
H Boston	(A)	– Pharmacology at Cardiff
F Caddy	(A)	– Maritime Engineering at Southampton
L Centamore	(A)	– Chemistry at UCL
J Davies	(A)	– Architecture at Sheffield
I Finer	(A)	– Civil Engineering at Birmingham
C Gregg	(A)	– Law at Bristol
W Leeder	(A)	– Natural Sciences at Nottingham
C Lodge	(A)	– History at Exeter
M Priest	(A)	– Biology at York
P Tandy	(A)	– Chemistry at Liverpool

2023

Further Maths and High Achievers in Maths

A Hubbard	(A*A*)	– Engineering at Cambridge
D Eggleton	(A*A*)	– Mathematics at Warwick
J Henly	(A*A*)	– Physics at Manchester
R Ridyard	(A*A)	– Maths & Philosophy at Manchester
G Emmanuel	(A*A)	– Economics at Bath
E Martin-Palmer	(AC)	– Aerospace Engineering at Bristol
E Chen	(AC)	– Gap Year

S Vernalls	(A*)	– Physics at Nottingham
A Disney	(A*)	– Mechanical Engineering at Loughborough
J Plowright	(A*)	– Medicine at Sheffield
S Deane	(A*)	– Gap Year
L Phillips	(A)	– Medicine at Nottingham
W McKim	(A)	– Engineering at Exeter
W Dudman	(A)	– Mathematics at Cardiff
O Beresford-Browne	(A)	– Physics with Astrophysics at Warwick
L Game	(A)	– Mechanical Engineering at Exeter
S Millward	(A)	– Economics at Newcastle
O Hollingsworth	(A)	– Arts & Science at UCL
J Therrien	(A)	– Chemistry at Nottingham
G Walker	(A)	– Civil Engineering at Loughborough
L Burgess	(A)	– Economics at Leeds
J Haythorn-Thwaite	(A)	– Civil Engineering at Loughborough
L Charlewood	(A)	– Mechanical Engineering at Exeter
F McDonald	(A)	– Bio Sciences at Manchester
S Carter	(A)	– Psychology at Newcastle
Z Burns	(A)	– Gap Year
L Couzins	(A)	– Gap Year
M Evans	(A)	– Gap Year
F Richards	(B)	– Geography at Manchester

Further Maths and High Achievers in Maths

2020

B Tidswell	(A*A*)	– Mathematics at Oxford
E Wood	(A*A*)	– Mathematics at Warwick
B Jones	(A*A*)	– Mathematics at Warwick
G Paul	(A*A*)	– Mathematics at Manchester
W Raftery	(A*A*)	– Computer Science at Southampton
W Kearney-Mitchell	(A*A*)	– Computer Science at Warwick
A French	(A*A)	– Engineering at Cambridge
N Falzoni	(A*A)	– Mathematics at Warwick
A Richards	(A*A)	– Chemistry at Durham
J McNaught	(A*A)	– Physics at Warwick
L Bosnell	(AA)	– History at Cambridge
A Pakeman	(AA)	– Engineering at Southampton
V Brewerton	(AB)	– Maths & Music at Birmingham

C Smith	(A*)	– Chemistry at Oxford
N Ford	(A*)	– Medicine at Oxford
F Reid	(A*)	– Mathematics at Leeds
G Prynne	(A*)	– Physics at Bristol
T Powell	(A*)	– Chemistry at Bristol
T Henly	(A*)	– Architecture at UCL
C Martindale	(A*)	– Law at Exeter
J Wosika	(A)	– Aerospace Engineering at Southampton
H Stagg	(A)	– Physics at Bristol
S Gilbert	(A)	– Medicine at Manchester
H McNeil	(A)	– Mech Eng at Birmingham
E Staddon	(A)	– Natural Science at Bath
M Harding	(A)	– Law at Warwick
C Goff	(A)	– Geography at Leeds
S Hastings	(A)	– Geography at Leeds

2019

Further Maths and High Achievers in Maths

J Morris	(A*A*)	– Mathematics at Cambridge
L Lord	(A*A*)	– Natural Science at Cambridge
M Gorbach	(A*B)	– Computer Science at Warwick
M Smithers	(A*B)	– Mathematics at Exeter
O Swales	(AA)	– Physics at Manchester
M Harris	(AB)	– Apprenticeship
D Woods	(AC)	– Civil Engineering at Manchester
D Zhang	(AD)	– Natural Sciences at Exeter
R Vanc	(BD)	– Physics at Cardiff

R Warton	(A*)	– Computer Science at Warwick
I Baxter	(A*)	– Medicine at Oxford
N Joinson	(A*)	– Material Science at Oxford
K Baddeley	(A)	– PPE at Oxford
K Maggs	(A)	– Economics at Nottingham
G Barnes	(A)	– French at Oxford
T Gbadegesin	(A)	– Computer Science at Liverpool
L Cross	(A)	– Mechanical Engineering at Warwick
E Champneys	(A)	– Biochemistry at Birmingham
J Elton	(A)	– Biochemistry at Bristol
J Tobin	(A)	– Geography at Edinburgh
A Wismayer	(A)	– Natural Sciences at Exeter
S Blair	(A)	– Law at York
L Coles	(A)	– Robotics at Sheffield
F Hardy	(A)	– Chemical Engineering at Manchester
D Davey	(A)	– Medicine at Sheffield
T White	(A)	– International Management at Bath

2018

Further Maths High Achievers

P Akbar	(A*A*)	– Mathematics at Warwick
T Bobrowski	(A*A*)	– Physics at Manchester
J Wood	(A*A*)	– Economics at UCL
C Headen	(A*A)	– History & Economics at Oxford
J Bateman	(A*A)	– Physics at Manchester
J Marquis	(A*A)	– Computer Science at Warwick
D Wheeler	(A*A)	– Mathematics at Exeter
S Hayward	(A*A)	– Applying 2019

Maths Courses at University

S Gadiraju	(A*B)	– Maths & Economics at LSE
D Henly	(A*C)	– Mathematics at Exeter
B Poolman	(A*A[AS])	– Mathematics at Bristol
B Frith	(AB)	– Maths & Computer Science at Southampton
S Reeves	(AD)	– Mathematics at Cardiff
L Ford	(AA[AS])	– Maths with European Studies at Birmingham
H Woolen	(BC)	– Mathematics at Reading
A Halls	(A)	– Mathematics at Cardiff
E Noble	(B)	– Mathematics at Cardiff
R Enright	(B)	– Mathematics at Swansea

2017

W Downing	(A*A*) –	Computer Science at Southampton
S Booshanam	(A*A*) –	Physics at Durham
E Jolly	(A*A) –	Physics at Southampton
T Leigh-Wood	(A*A) –	Economics at LSE
T Whitehead	(A*A) –	Aeronautics/Spacecraft Engineering at Southampton
A Pai	(A*A) –	Physics at UCL
T Holman	(A*B) –	Mathematics at Leeds
G Bowen	(A*C) –	Mathematics at Leeds
H Rawlinson	(A*D) –	Mathematics at Cardiff

2016

S Buddle	(A*A*) –	Natural Sciences at Cambridge
F Boniface	(A*A*) –	Mathematics at Warwick
J Tait	(A*A*) –	Electronic Engineering at Southampton
A Milewski	(A*A) –	Mathematics at Bristol
D Graham	(A*A) –	Physics at Oxford
C Walker	(A*A) –	Mechanical Engineering at Southampton
S Madigan	(A*A) –	Electronic Engineering at Loughborough
J Davis	(A*A) –	Music at Cambridge

2015

J Hansard	(A*A*) –	Mechanical Engineering at Imperial
B Hansard	(A*A) –	Engineering at Oxford
F James-Lucas	(A*A) –	Physics at Birmingham
T Marquis	(AA) –	Mathematics at Southampton
D Hayman	(AA) –	Genetics at Sheffield
S Buchama	(AB) –	Computer Science at Sheffield
J Towner	(A*) –	Medicine at Oxford
B Forder	(A*) –	Chemistry at Cambridge
C McCabe	(A*) –	Natural Sciences at Durham

2014	S Tyler	(A*A*)	– Mathematics & Stats at Nottingham
	H Cross	(A*A*)	– Engineering at Cambridge
	O Russell	(A*A)	– Mathematics at Bristol
	H Baker	(A*B)	– Computer Science & Electronics at Bristol
	G Robbins	(A*C)	– Mathematics at Southampton
	R Plain	(AA)	– Mathematics at Birmingham
	M Cook	(AA)	– Computer Science at Southampton
2013	P Davies	(A*A*)	– Mathematics at UCL
	S Hawker	(A*A)	– Mathematics at Bath University
	J McCabe	(A*A)	– Economics at LSE
	C Millard	(A*A)	– Physics at Imperial College, London
	J Conroy	(A*B)	– Mathematics at Lancaster University
	M Davies	(A*B)	– Economics at LSE
2012	J Russell	(A*A)	– Physics at Oxford
	D Self	(A*A)	– Mechanical Engineering at Exeter
	XWang	(A*B)	– Biomedical Sciences at Oxford
2011	A Wendland	(A*A*)	– Mathematics at Warwick
	A Copestake	(A*A*)	– PPE at Oxford
	E Tyler	(A*A*)	– Engineering at Cambridge
	A Leung	(A*A)	– Physics at Imperial
	B Prudden	(A*B)	– Mathematics at Birmingham
	A Cope	(AA)	– Mathematics at Southampton
	H Rosser	(AB)	– Accounting at Northumbria
2010	K Jones	(AA*)	– Mathematics at Leicester
	J Abbott	(A*A)	– Chemistry at Oxford
	G Prentice	(A*A)	– Economics at Oxford
	J Turner	(AA)	– Aeronautics at Southampton
	T Marshall	(AB)	– Engineering at Southampton
	Z Xu	(AB)	– Management at Manchester

Aims of the Session

- What is A Level Maths like in the 6th Form?
- Why Choose A Level Maths or Further Maths?
- Why Choose Beechen Cliff School?