



AS/A Level Mathematics and Further Mathematics

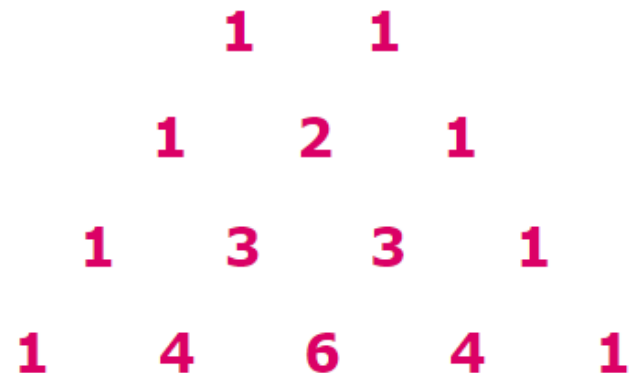
What is AS level Mathematics?

$$(x + 1)^1 = 1x + 1$$

$$(x + 1)^2 = 1x^2 + 2x + 1$$

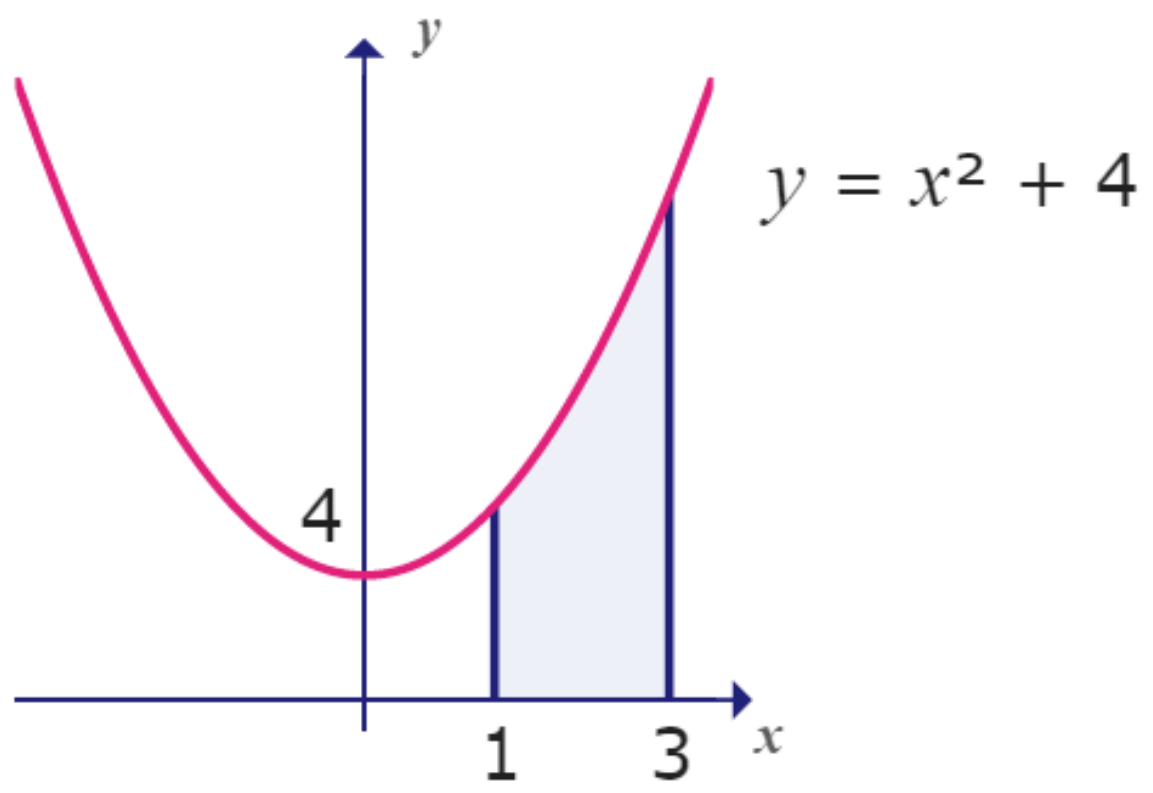
$$(x + 1)^3 = 1x^3 + 3x^2 + 3x + 1$$

$$(x + 1)^4 = 1x^4 + 4x^3 + 6x^2 + 4x + 1$$



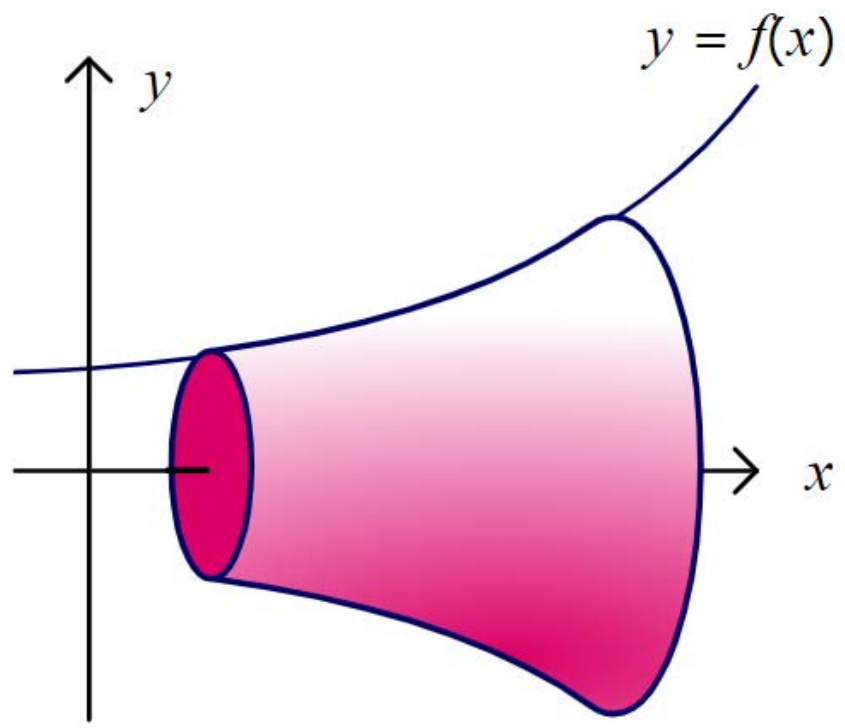
Pure Mathematics

What is A level Mathematics?



Pure Mathematics

What is A level Mathematics?

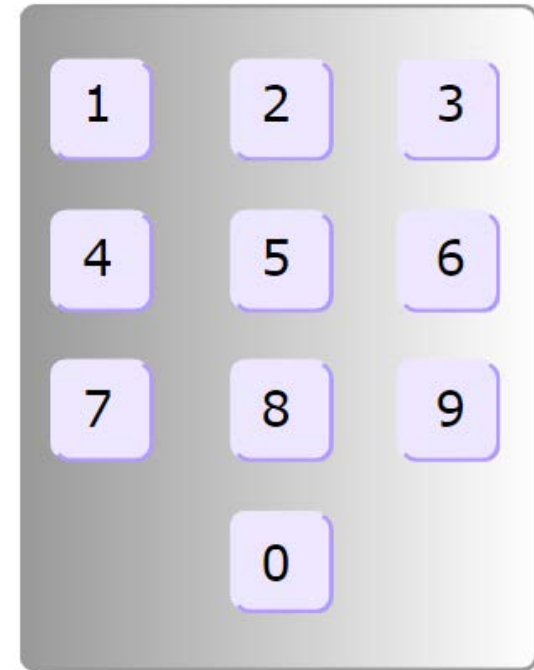


Further Mathematics - Core Pure Mathematics

What is AS/A level Mathematics?

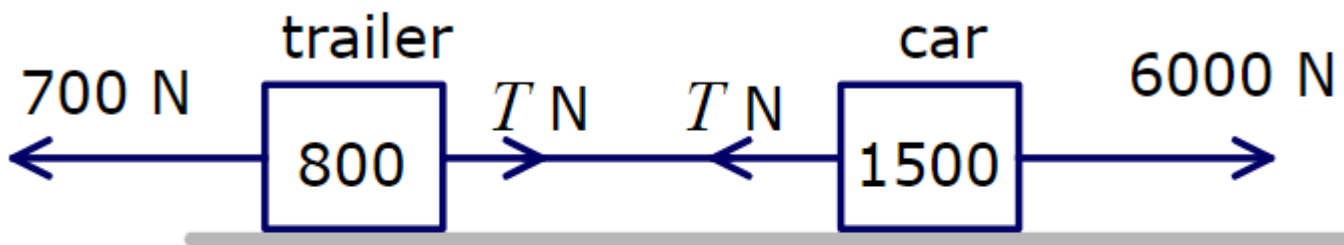
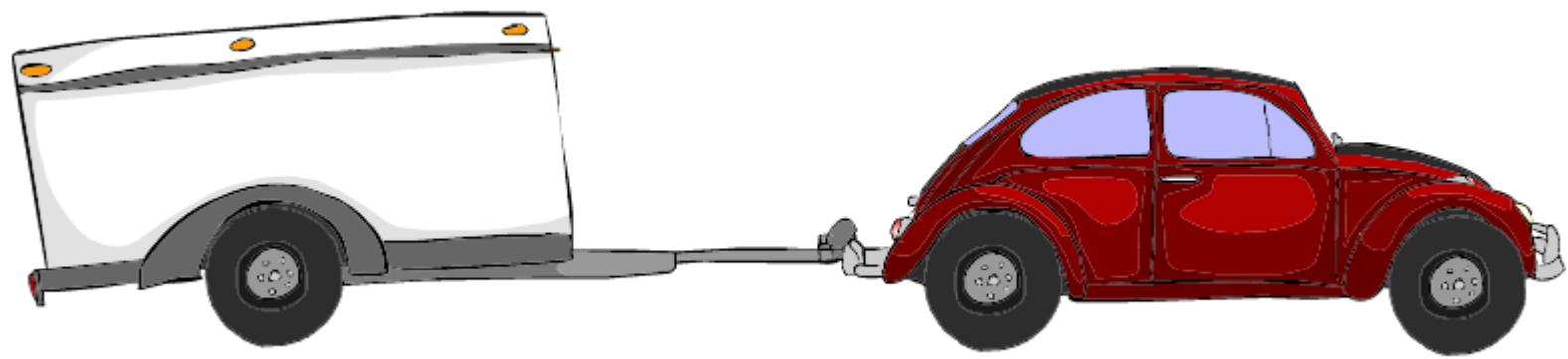
Tom has trouble remembering his pin number. He knows it contains the digits 1, 3, 4 and 6 but he can't remember the order.

How many different orders are there?



Statistics

What is AS/A level Mathematics?



\longrightarrow
 $a \text{ ms}^{-2}$

Mechanics

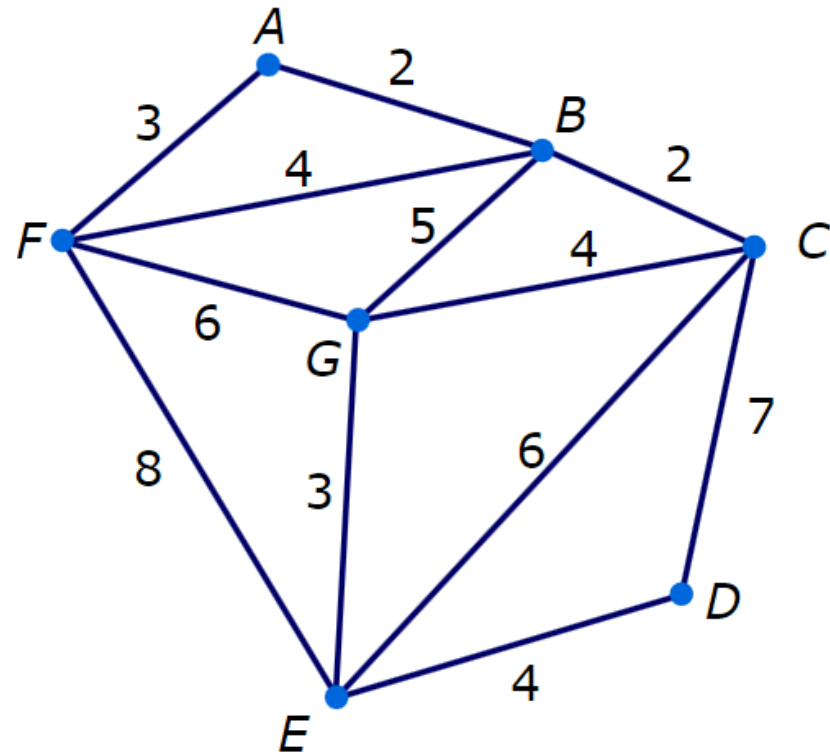
What is A level Further Mathematics?

The graph shows the roads in a village, with lengths in hundreds of metres.

A postman starts and finishes his round at A.

He needs to walk along every road at least once to deliver the post.

How far will he have to walk to do this?



Further Mathematics – Decision Maths

AS/A level Mathematics course structure

All of the content in the AS/A level Mathematics qualification is compulsory and is the same for all examination boards.

Pure Mathematics
66%

Statistics
17%

Mechanics
17%

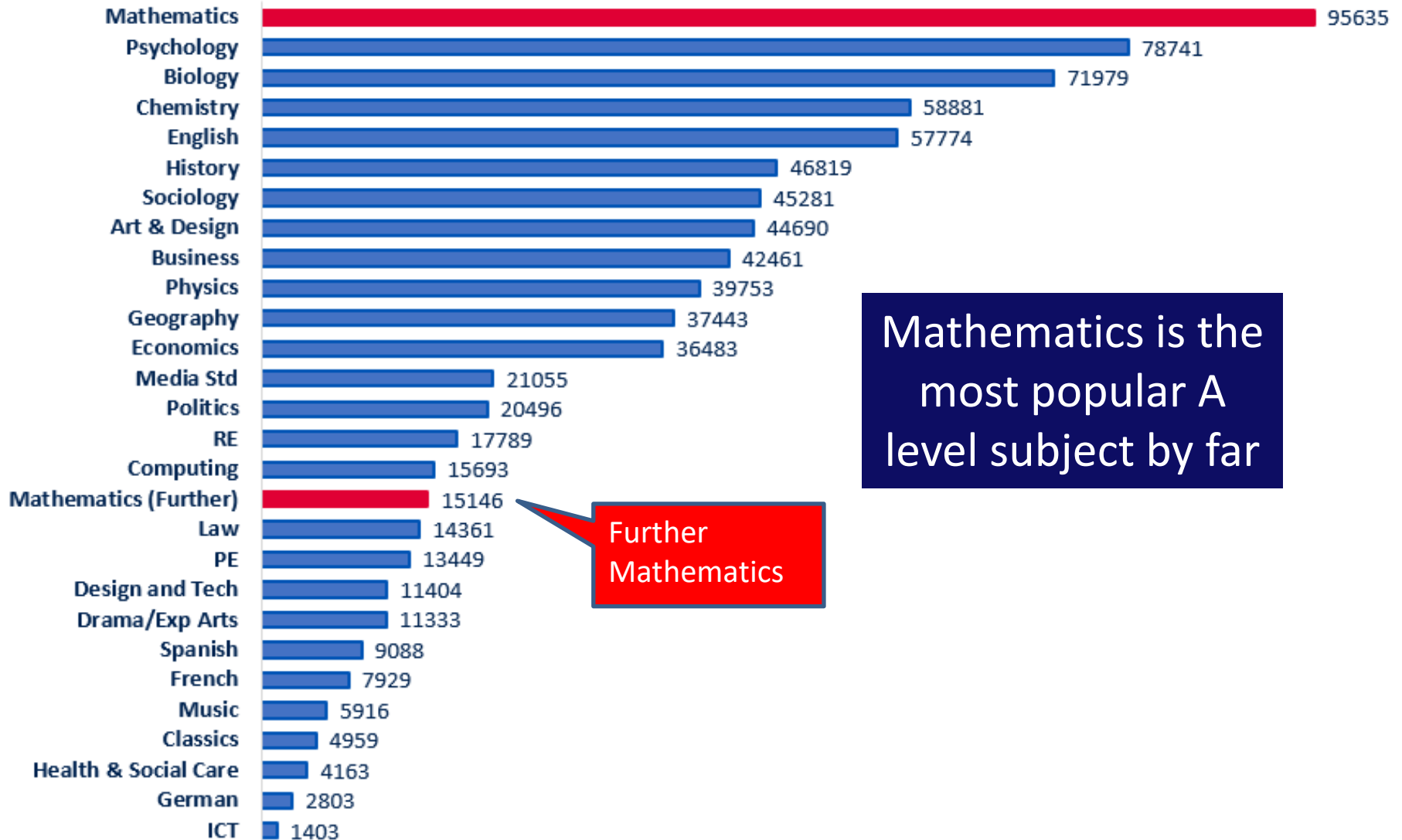
AS/A level Further Mathematics course structure

Further Mathematics is taken **in addition** to A level Mathematics

Pure Mathematics

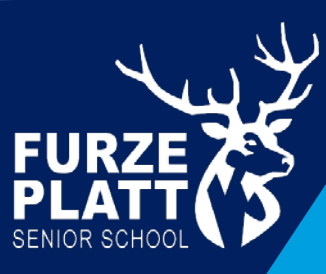
Additional Pure, Statistics,
Mechanics or Decision Mathematics

A level entries by subject



Many subjects use maths

Geography	(no specific percentage but geographical skills include quantitative and qualitative skills equally)
Economics	(at least 20%)
Biology	(at least 10%)
Business	(at least 10%)
Psychology	(at least 10%)
PE	(at least 5%)
Sociology	(no specific percentage but you will be analysing data)



Career opportunities



Career opportunities

Applications of mathematics in technology:

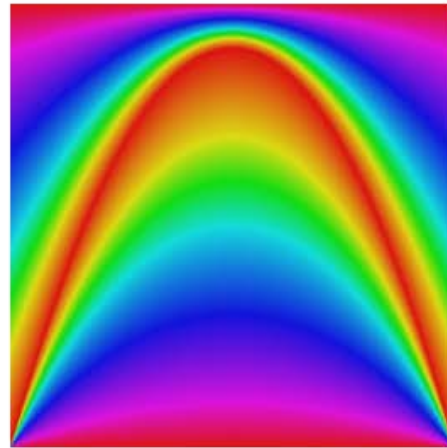
- Medical
- Games Design
- Internet Security
- Financial Cryptography
- Programming
- Communications



Career opportunities

On-going applications in engineering, such as:

- Aircraft Modelling
- Fluid Flows
- Acoustic
- Software Development
- Electronics
- Civil Engineering.



New scientific processes such as:

- Modelling populations
- Modelling diseases
- Quantum Physics
- Astronomy
- Forensics
- DNA sequencing



Career opportunities

Applications relating to human behaviours and interactions:

- Data Science
- Psychology
- Law
- Economics
- Climate Change
- Environmental Modelling
- Political Science
- International Development



FPSS entry requirements

AS/A level Mathematics

- At least **grade 6** in GCSE Maths.

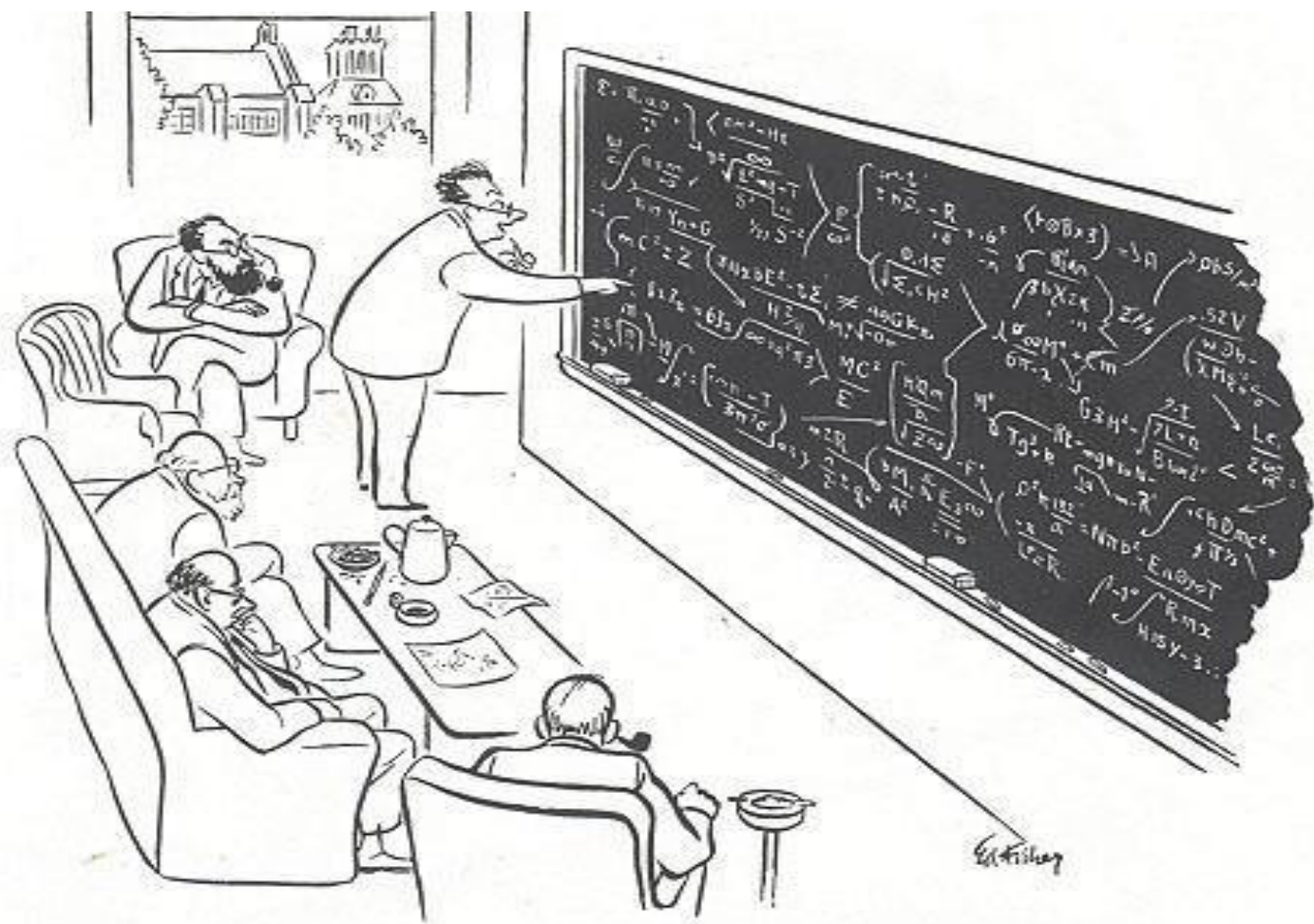
AS/A level Further Mathematics

- At least **grade 7** in GCSE Maths.
- Must be studying AS/A level Mathematics.

Why Maths at FPSS?

- Highly skilled subject specialists.
- Maths workshop after school.
- 1-1 tutorials with teachers as required.
- KS5 support tutor.
- Online subscriptions to ActiveLearn, Integral, MyMaths.
- UKMT maths challenges.
- Opportunities to become a Maths ambassador.
- Mentoring programme for younger students.

Mathematics



"Say, I think I see where we went off. Isn't eight times seven fifty-six?"