



FREE PARENT GUIDE

Is Your Child Ready for A Level Maths?

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By Ibrahim, maths tutor since 2018 · Updated October 2026

A Level Maths is one of the most useful A Levels there is, but the jump from GCSE is bigger than most families expect. Here is how to tell if your child is ready, and what to do over the summer if they are nearly there.

What Sixth Forms Usually Ask For

Most sixth forms and colleges ask for a **grade 6 or 7** in GCSE Maths, and many prefer a 7. Further Maths (a second, harder maths A Level) usually needs a 7 or 8, sometimes higher. Requirements differ, so check the prospectus.

A grade on its own is not the whole story. A student with a hard-earned 7 who loves algebra may do better than a student with an 8 who found algebra a struggle.

How Big Is the Jump?

Much More Algebra

About two thirds of A Level Maths is pure maths (algebra, graphs, trigonometry and calculus), and nearly every question needs confident algebra. Weak algebra is the number one reason students struggle in Year 12.

Fewer, Longer Questions

Questions are longer and less guided. Students need to choose the method themselves, rather than follow a set of small steps.

Statistics and Mechanics

The other third is statistics and mechanics (the maths of forces and motion), including a "large data set": real data the exam board publishes in advance.

For every main exam board (AQA, Edexcel, OCR and OCR MEI, which is a second OCR course), A Level Maths is assessed by three 2-hour exams at the end of Year 13, and a calculator is allowed in all of them.

A Readiness Checklist

Ask your child how confident they feel with each of these. These are the GCSE skills that A Level relies on most.

- ✓ Expanding brackets and factorising quadratics, including ones like $6x^2 - x - 2$
- ✓ The laws of indices, including negative and fractional powers
- ✓ Completing the square
- ✓ Straight-line graphs: gradients, $y = mx + c$ and perpendicular lines
- ✓ Trigonometry, including the sine and cosine rules
- ✓ Rearranging formulae, including when the subject appears twice
- ✓ Simplifying surds and rationalising the denominator
- ✓ Solving simultaneous equations where one is a quadratic
- ✓ Algebraic fractions
- ✓ Working independently for an hour without giving up

A Quick Six-Question Self-Test

Without a calculator, your child should be able to answer these in about 20 minutes. The answers are at the end of this guide.

1. Factorise $6x^2 - x - 2$
2. Work out the value of $8^{2/3}$
3. Rationalise the denominator of $6 \div \sqrt{3}$ and simplify
4. Write $x^2 + 6x + 5$ in the form $(x + a)^2 + b$
5. Solve the simultaneous equations $y = x + 1$ and $x^2 + y^2 = 13$
6. Find the gradient of a line perpendicular to $y = 2x - 5$

If your child gets five or six right with clear working, they are in good shape. Three or four means they are close, and a focused summer will help a lot. Fewer than three is a sign to talk to the school about whether A Level Maths is the right choice, or whether Core Maths (a practical maths course, about half the size of an A Level) might suit them better.

Making the Most of the Summer Before Year 12

- Spend two or three short sessions a week on algebra, especially factorising, indices and surds.
- Ask the sixth form if they set a "bridging" pack (summer work to prepare for Year 12), and complete it properly.
- Revisit any GCSE topics that were weak in the exams.
- Avoid starting the A Level course itself. Strong GCSE algebra is far more valuable.

Signs Your Child Is Struggling in Year 12

- Spending hours on homework but still not finishing it
- Low marks in the first assessments in October or November
- Saying "I understand it in the lesson but can't do it on my own"
- Talking about dropping maths

The first term of Year 12 is when problems are easiest to fix. If you notice any of these, act early rather than waiting for the end-of-year exams.

Answers to the Self-Test

1. $(3x - 2)(2x + 1)$ 2. 4 3. $2\sqrt{3}$ 4. $(x + 3)^2 - 4$ 5. $x = 2, y = 3$ or $x = -3, y = -2$ 6. $-\frac{1}{2}$

What You Can Do This Week

- Ask your child to try the six-question self-test, without a calculator.
- Check the maths grade asked for by the sixth forms your child is considering.
- If your child is in Year 12, ask how their first maths assessment went.

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