



Your Child's Maths Challenge

(Maths Mastery Academy Initial Assessment)

Many parents are proud of how well their child is doing in maths, but still worry they're not being fully challenged. When school feels too easy or repetitive, children may coast through... and lose the talent and confidence they once showed.

This short challenge is designed to stretch your child with real problem-solving. It tests how well they can apply their knowledge in unfamiliar situations, a skill essential for long-term success in maths competitions, exams, and top university pathways.

This page explains how to complete the assessment and what happens after submission.

Instructions

- **Show clear working and explanations.** Use words, diagrams, or structured steps.
- **Use rough paper first** if helpful, then write a clear final version.
- **Use lined or grid paper.** Space between questions is tight.
- **Time:** Allow 45–60 minutes. Some questions will take more time — that's expected.

What to Do Next

1. **Complete the assessment.** Set aside 45–60 minutes in a quiet space.
2. **Submit it at mathsmasteryacademy.co.uk/talent/submitor by scanning the QR code below.** Upload photos of your child's completed work, and we will send you their result.
3. **Get tailored feedback.** You'll receive personalised advice on their strengths, next steps, and whether they're ready to join the Maths Mastery Academy.

Submit Your Child's Work

Scan this QR code to submit your child's assessment.

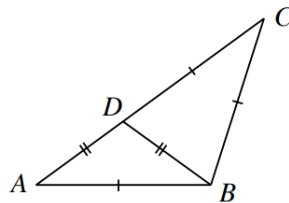
Tap the camera on your phone and hold it over the code, or go to mathsmasteryacademy.co.uk/talent/submit. It takes two minutes.



1. Find the 100th digit after the decimal point in the decimal representation of $\frac{3}{7}$.

2. Find four integers whose sum is 400 and such that the first integer is equal to twice the second integer, three times the third integer and four times the fourth integer.

3. In this figure ADC is a straight line and $AB = BC = CD$. Also, $DA = DB$. Find the size of $\angle BAC$.



4. A palindromic number is one which reads the same when its digits are reversed, for example 23832. What is the largest six-digit palindromic number which is exactly divisible by 15?

5. Solve the equation $5a - ab = 9b^2$, where a and b are positive integers.