

How to get a grade 5 in GCSE Maths Foundation (Edexcel)

Grade 5 is the highest grade on the Foundation tier and is often called a strong pass. It needs almost everything a grade 4 needs, done with very few slips, plus most of the harder problems near the end of each paper, which are set at grades 4 and 5 and are often shared with the Higher paper. This plan shows how to lock in the basics, which extra topics to add, and how to spend ten weeks getting there.

What a grade 5 asks of you

- Because 5 is the top Foundation grade, there is little room for error: you need nearly all the marks in the first half of each paper and a good share of the marks in the last third.
- The last questions on each Foundation paper are aimed at grades 4 and 5, and many of them also appear on the Higher paper. You are answering Higher-standard problems at the end of every paper.
- You need the full Foundation content, including the algebra, trigonometry and probability that grade 4 students often leave out.
- You need to solve problems where no method is given, set out in clear, labelled steps that end with a conclusion.
- Your grade comes from the total across all three papers, so steady performance on all three is worth more than one excellent paper.

Lock in the grade 4 core first

- Sit one mock early; Paper 1 is the best test of your basics. If you dropped marks in the first half, fix those topics before anything else: they are the quickest marks to gain.
- Work through the grade-by-grade skill lists in Notes and tick every skill up to grade 4. Anything you can't tick goes on this week's list.
- Speed matters as much as accuracy: the first half has to go quickly and cleanly so you have time for the long questions. Daily 5 keeps the basic skills sharp while you learn new ones.
- Non-calculator fluency with fractions, decimals, percentages and negative numbers underpins almost every grade 5 question on Paper 1.

Grade 5 topics to add

- Number: standard form (with and without a calculator), laws of indices, writing a number as a product of prime factors and using it for HCF and LCM, error intervals, and the product rule for counting.
- Ratio and proportion: reverse percentages, compound interest and depreciation, direct and inverse proportion, density and pressure, and ratio problems that combine two ratios or link a ratio to a fraction.
- Algebra: expanding two brackets, factorising quadratics such as $x^2 + 7x + 12$ and solving them, solving linear simultaneous equations, solving inequalities and showing them on a number line, changing the subject of a formula, and $y = mx + c$ (gradient, intercept and parallel lines).
- Graphs: plotting quadratic graphs and reading off the roots and the turning point, and interpreting real-life graphs such as distance–time graphs.
- Geometry and measures: Pythagoras' theorem, sin, cos and tan in right-angled triangles (including the exact values), arc length and sector area, surface area and volume of cylinders and composite solids, similar shapes (scale factors for lengths), vectors, interior and exterior angles of polygons, constructions, loci and bearings.
- Probability and statistics: tree diagrams, Venn diagrams, relative frequency and expected outcomes, estimating the mean from a grouped frequency table, and scatter graphs with lines of best fit.

Question types that decide a grade 5

- Reverse percentages: 'After a 15% reduction the price is £68. Work out the original price.' Divide by 0.85; don't add 15% of £68.
- Compound interest and depreciation over several years using a multiplier and a power, reading carefully whether the question wants the final amount or only the interest.
- Pythagoras and trigonometry in context, often in two steps: find a length with Pythagoras, then an angle with trigonometry.
- Multi-step area and volume problems that end in a cost, a number of tins or a time to fill.
- Simultaneous equations set in a context, such as the prices of adult and child tickets.
- Ratio problems with extra information, e.g. 'Amir has £24 more than Bella', or two linked ratios such as $a : b = 2 : 3$ and $b : c = 4 : 5$.
- Angles in polygons, including forming and solving an equation.
- Comparing two distributions using an average and the range, in context.
- 'Show that' questions, where every mark is for the working.

Revision week by week (10 weeks)

- Aim for about four to five hours a week: Daily 5 every day, three 45-minute topic sessions and one timed practice. Adjust the weeks to the time you have.
- Week 1: sit a full Paper 2 mock under exam conditions. Use Progress and the grade 4 and grade 5 checklists in Notes to list your weak spots.
- Week 2: fix the grade 4 gaps from your mock, with the notes, the worksheet and a short Easy custom paper for each.
- Week 3: percentages and ratio to grade 5: reverse percentages, compound interest and depreciation, direct and inverse proportion, and harder ratio problems.
- Week 4: algebra: expanding two brackets, factorising and solving quadratics, changing the subject and inequalities.
- Week 5: sit a Paper 1 mock. Then simultaneous equations, $y = mx + c$, quadratic graphs and sequences.
- Week 6: Pythagoras and trigonometry, including the exact values for Paper 1, and bearings.
- Week 7: circles, arcs and sectors, volume and surface area, similar shapes, vectors, transformations, constructions and loci.
- Week 8: standard form, indices, error intervals and the product rule; then tree diagrams, Venn diagrams, the mean from grouped data and scatter graphs.
- Week 9: sit a Paper 3 mock. Redo every question you dropped marks on, then set Medium custom papers on your three weakest subtopics.
- Week 10: a full paper every two days, alternating non-calculator and calculator, plus flashcards and cheatsheets every day.

How to use this website

- Notes: use the grade-by-grade skill lists as your checklist for grades 4 and 5. For each new topic, read the notes, do the worksheet, check the answers and keep the cheatsheet.
- Custom paper: once a topic feels secure, set Medium questions only. Medium is the harder of the two Foundation levels and the closer match to the grade 4 and 5 questions at the end of each paper. Mix three or four subtopics so you practise choosing the method.
- Mock exams: sit all three, timed and under exam conditions, and aim to finish with about 10 minutes to check. Sit them again in the final weeks.
- Daily 5: every day, to keep the basics fast while you learn the grade 5 topics.
- Flashcards: exact trig values, angle facts, area and volume formulas, percentage multipliers and unit conversions.
- Progress: work down from your weakest subtopics and redo every question you dropped marks on until you can do it cleanly.
- Whiteboard: practise setting out multi-step working with labelled steps, the way process marks are given.
- Tutoring: for a topic that keeps costing you marks, the free 30-minute trial lesson with Chhetri Academy gives you 1-to-1 help.

Timing strategy in the exam

- Aim to reach the last third of each paper with at least 35 minutes left: the final questions are often worth 3 to 5 marks each and need careful working.
- Go at a steady pace on the early questions rather than a rush: at grade 5, a careless slip on a 2-mark question costs as much as a hard question.
- Before a 4- or 5-mark problem, spend 30 seconds deciding the steps, then write them out with labels.
- If a problem stalls, write down what you have and move on; the next question may suit you better.
- In the last 10 minutes, go back to anything you skipped, then check calculator answers against a rough estimate and re-read what each question asked for.

Traps at grade 5

- Reverse percentages: finding the percentage of the new price and adding it on. Divide by the multiplier instead.
- Compound interest: using simple interest, or giving the total amount when the question asks for the interest.
- Trigonometry: the calculator not in degrees, or the sides labelled from the wrong angle. Label opposite, adjacent and hypotenuse from the angle you are using.
- Pythagoras: adding the squares when you want a shorter side. To find a shorter side, subtract from the square of the hypotenuse.
- Solving quadratics: sign slips. $x^2 - 2x - 15 = (x - 5)(x + 3)$, so $x = 5$ or $x = -3$, not -5 and 3 .
- Simultaneous equations: sign errors when subtracting one equation from the other. Check your answers in the equation you did not use.
- Inequalities: the integers that satisfy $-2 < n \leq 3$ are $-1, 0, 1, 2$ and 3 . On a number line, an open circle means the value is not included and a filled circle means it is.
- Standard form: 32×10^4 is not in standard form; it is 3.2×10^5 .
- Rounding in the middle of a long calculation, which can push the final answer out of the accepted range.
- Area and volume units: cm^2 for area, cm^3 for volume, and $1 \text{ litre} = 1000 \text{ cm}^3$.

Foundation or Higher?

- Foundation cannot give you higher than a grade 5. If you are scoring a comfortable grade 5 on Foundation mocks well before the exam, ask your teacher whether the Higher tier would suit you, especially if a course you want asks for a 6 or above in maths.
- The decision is made with your teacher, who knows your mock results and the school's entry deadlines. Whichever tier you sit, the grade 4 and 5 topics in this plan are the ones the Higher paper starts with.

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