

How to get a grade 7 in GCSE Maths Higher (Edexcel)

A grade 7 means being accurate on all the grade 4 to 6 questions and handling most of the grade 7 algebra, geometry and statistics in the second half of each paper. You need to attempt nearly every question and get into the hardest ones. The difference between a 6 and a 7 is often careless marks dropped early, not a missing topic.

What a grade 7 asks of you

- Near-full marks on the first half of every paper, with no easy marks thrown away.
- Confident algebra: quadratics in every form, algebraic fractions, rearranging formulae and simultaneous equations.
- Multi-step problems where you choose the method yourself, often combining two topics, such as a sector with a triangle or a cone with a hemisphere.
- Written reasoning: circle theorem reasons, “show that” questions and straightforward algebraic proofs.

Topics to secure first

- Number: surds (simplifying and expanding brackets), negative and fractional indices, recurring decimals to fractions, upper and lower bounds, growth and decay.
- Algebra: factorising $ax^2 + bx + c$, the quadratic formula, completing the square, simultaneous equations with one linear and one quadratic, algebraic fractions, composite and inverse functions, iteration, cubic, reciprocal and exponential graphs, algebraic proof.
- Ratio and rates: direct and inverse proportion with equations (such as $y = kx^2$), combining ratios, gradients and areas on distance–time and velocity–time graphs.
- Geometry: sine rule, cosine rule and $\frac{1}{2}ab \sin C$, Pythagoras and trigonometry in 3D, circle theorems, arcs and sectors, volume and surface area of cones, spheres and pyramids, area and volume of similar shapes, vectors, congruence.
- Probability and statistics: histograms, cumulative frequency and box plots, tree diagrams without replacement, conditional probability from tables and Venn diagrams, capture–recapture.

Question types to master

- 5 and 6 mark area, volume and trigonometry problems that combine two or three topics.
- “Show that” a quadratic equation comes from a context (such as an area), then solve it.
- Angle chains using circle theorems, with a reason for every step.
- Histograms: finding frequencies from areas and estimating how many values lie in part of a class.
- Bounds problems, where you have to decide which bound of each value to use.
- Vectors: writing a route in terms of a and b , and simple proofs that points lie on a straight line.
- Interpreting gradients and areas under graphs in context, such as acceleration or distance travelled.

Revision week by week (10 weeks)

- Aim for five sessions a week of 45 minutes, plus the Daily 5 every day.
- Week 1: sit all three mock exams on this site, timed, spread across the week. Use Progress to list your weakest subtopics.
- Weeks 2 and 3: algebra (quadratics, simultaneous equations, algebraic fractions, rearranging, functions, iteration). Notes and worksheet first, then custom papers on Medium, then Hard.
- Weeks 4 and 5: geometry (sine and cosine rules, 3D problems, circle theorems, vectors, volume, similar shapes).
- Week 6: number and ratio (surds, indices, bounds, proportion, growth and decay).
- Week 7: probability and statistics, then redo every question you dropped marks on from Progress.
- Weeks 8 and 9: two timed papers a week, mixing the site's mocks with Pearson past papers from your teacher. Follow each one with a Hard custom paper on the subtopics where you lost marks.
- Week 10: tick off the grade 6 and 7 checklist, go through your mistakes list, and reread the exam technique guide.

How to use this website

- Notes: work through the grade-by-grade skill lists up to grade 7 and tick the checklist honestly. Every unticked skill is a subtopic for this week.
- Use each subtopic's cheatsheet for quick review and its worksheet (with answers) before trying exam-style questions.
- Custom paper: once you score around 80% on Medium, move to Hard (around grades 7 to 9). Build mixed papers of 20 to 30 marks across several subtopics so you practise spotting the topic.
- Mock exams: one timed paper a fortnight, alternating Paper 1 with Papers 2 and 3.
- Progress: work down the weakest-first list and redo the questions you dropped marks on until you get full marks.
- Daily 5 keeps your weakest topics coming back; Flashcards keep quick skills such as index laws and exact values fast.
- Use the Whiteboard for sketches and diagrams while you work on screen.
- For extra help with a stubborn topic, book a free 30-minute trial lesson with Chhetri Academy.

Timing strategy in the exam

- Aim to finish the first half of the paper in about 35 minutes, without rushing into slips.
- That leaves about 45 minutes for the harder second half and 10 minutes to check.
- If you are stuck for more than 2 minutes beyond a question's marks, write what you have, circle it and move on.
- On the last few questions, go for the first process marks on every one rather than all the marks on just one.

Traps at grade 7

- Sign errors: $-3(x - 2) = -3x + 6$, and in the quadratic formula $-b$ is positive when b is negative.
- Losing a solution: a quadratic usually has two, and square-rooting gives $\pm$.
- Rounding partway through a sine or cosine rule problem. Keep the full value in your calculator.
- Assuming a line is a diameter, a tangent or parallel without a reason, or leaving out circle theorem reasons.
- Reading a histogram bar's height as its frequency instead of using its area.
- Tree diagrams without replacement: forgetting to reduce the second denominators, or missing one of the orders (red then blue and blue then red).
- Similar shapes: using the length scale factor for area or volume instead of squaring or cubing it.
- Composite functions: $fg(x)$ means apply g first, then f .

Free notes, worksheets, practice papers and mock exams at chhetriacademy.com. Written for this site; not taken from past papers.
Stuck? 1-to-1 tutoring with a free 30-minute trial lesson.