G3 Mathematics Improvement Checklist

Full Subject-Based Banding (G3) • Secondary 1–4 • Designed for fast, calm improvement

Why have tuition with us

- Pinpoint gaps fast (concept → method → accuracy → time) and fix in the right order.
- Ultra-small group (3 pax): personalised correction + good peer energy.
- Exam-ready habits: clean working, method marks, timed practice, review loops.

How we want the best for our Sec G3 Math students

- Strong fundamentals + strong confidence.
- Accurate algebra and neat working (no “careless” marks lost).
- Flexible problem-solving across mixed topics.
- A steady routine that fits school life.

Quick-start checklist (today)

[ ] Download the official syllabus PDFs and highlight topics you are unsure about.
[ ] Do 20 minutes timed mixed practice; mark immediately; write an error log.
[ ] Pick 2 weak topics; do 10 focused questions each; re-do mistakes the next day.
[ ] Lock in a weekly routine: 3 short sessions + 1 timed set + 1 review session.

From the webpage: 4 high-leverage ideas

- Network effect: learn with peers; compare methods; raise standards.
- Studying bubble: avoid endless worksheets; focus on high-yield concepts.
- 2-steps-away: copy good processes (working, checking, pacing), not just answers.
- S-curve: foundation → fluency spike → exam refinement.

Need help? Scan the QR in the banner or WhatsApp +65 8823 1234.

What is G3 Mathematics and where to get official information

Under Full Subject-Based Banding (Full SBB), subjects are offered at three levels: G1, G2 and G3. G3 is the most demanding level (mapped from the former Express standard). From the 2024 Secondary 1 cohort, streams are removed and students can offer subjects at different levels. From the 2027 graduating cohort, students will sit for the Singapore–Cambridge Secondary Education Certificate (SEC) examination, with different papers for each subject level.

Save these official links

- MOE: 2020 G2 & G3 Mathematics Syllabuses (PDF)
- SEAB: O-Level Mathematics 4052 Syllabus (Examined in 2026) (PDF)
- SEAB: GCE O-Level (School Candidates) – syllabuses, rules, dates
- MOE: Full SBB – G1/G2/G3 and SEC from 2027

How to use the syllabus (the right way)

[ ] Use the MOE syllabus to know what to learn (topics by level).

[ ] Use the SEAB syllabus to know how you'll be assessed (paper format, marks, skills).

[ ] Turn each topic into a minimum mastery standard: can you solve 8/10 mixed questions without hints and explain the steps?

G3 syllabus snapshot (3 strands)

- Number & Algebra: numbers, ratio/%, speed, algebra, equations, functions/graphs, sets, matrices.
- Geometry & Measurement: mensuration, similarity, circles, coordinate geometry, vectors, trigonometry.
- Statistics & Probability: data interpretation, spread (incl. standard deviation), probability (incl. tree diagrams).

Topic checklist by level (MOE G3 syllabus)

Tick only when you can do it confidently under time and can explain your method.

Secondary 1 (G3)

[ ] Primes, HCF/LCM, roots; number line & inequalities symbols.

[ ] Approximation & estimation (s.f., d.p.).

[ ] Ratio & percentage (incl. reverse %).

[ ] Rate & speed (unit conversion, word problems).

[ ] Algebra basics; linear equations; linear graphs & gradient.

[ ] Angles/polygons + mensuration basics; read & critique graphs.

Secondary 2 (G3)

[ ] Direct/inverse proportion; map scales (distance/area).

[ ] Expand & factorise (incl. simple quadratics).

[ ] Change subject of formula; algebraic fractions (basic).

[ ] Quadratic graphs (features); inequalities; simultaneous equations.

[ ] Similarity/congruence foundations; statistics (mean/median) + probability basics.

Secondary 3/4 (G3)

[ ] Standard form & indices; power/exponential graphs; tangent gradient.

[ ] Quadratics: formula, completing square, graph method; modelling problems.

[ ] Sets & Venn; matrices; vectors; coordinate geometry.

[ ] Circle theorems; radians, arc/sector/segment; sine/cosine rule; bearings; 2D/3D.

[ ] Statistics: box plots, cumulative frequency, standard deviation; probability: tree diagrams, add/multiply rules.

60-minute baseline diagnostic

[ ] 20 min: 10 mixed questions (ratio/%/speed + equations/graphs).

[ ] 20 min: 6 geometry questions (mensuration/circle/trig).

[ ] 10 min: 4 stats/prob questions (interpret + tree/Venn).

[ ] 10 min: review & write error log (Type → Cause → Fix).

High-IQ mastery system (the “alpha” part)

If you only do one thing: build a loop of attempt → mark → diagnose → fix → retest.

Your weekly loop (minimum effective dose)

[ ] 3 × 25 minutes: focused topic practice (10–15 questions, high accuracy).
[ ] 1 × 35 minutes: timed mixed set (like an exam).
[ ] 1 × 25 minutes: error-log review + re-do mistakes without looking.
[ ] 1 × 10 minutes: formula/definition recall (no notes) + quick check.

The “studying bubble” filter (avoid wasted effort)

- Stop re-writing notes if you still make the same errors in questions.
- Prioritise topics that appear across many chapters: algebra manipulation, graphs, ratio/%, geometry reasoning.
- Prefer mixed practice (interleaving) once basics are learned—real exams are mixed.

12-week S-curve plan (copy/paste)

Weeks 1–3: Foundation	• Fix arithmetic/algebra accuracy; build clean working habits. • Learn core methods for weak topics; do untimed accuracy first.
Weeks 4–7: Fluency spike	• Start timed sets; increase mixed-topic practice. • Track speed: minutes-per-mark; reduce repeated errors.
Weeks 8–10: Exam technique	• Paper-style questions; method marks; checking routines. • Target the top 3 recurring error types.
Weeks 11–12: Consolidation	• Full timed papers (or full sections) + review. • Sleep, routine, and confidence; keep it simple.

Checking routine (turn “careless” into “controlled”)

[ ] Circle critical signs (+/−) and units; underline what the question asks.
[ ] Estimate first (roughly). If your final answer is wildly off, re-check immediately.
[ ] Do a 30-second “reverse check” where possible (substitute back, sanity-check with graph/units).

Exam playbook (pacing, method marks, and common mistakes)

Even strong students drop grades from poor pacing and messy working. Treat the paper as a strategy game: secure easy marks fast, protect method marks, and avoid predictable traps.

If your cohort sits GCE O-Level Mathematics (4052) – know the format

For the 2026 syllabus (4052), the exam is split into two papers (non-calculator and calculator). Always confirm the exact requirements for your year on the official SEAB syllabus and approved-calculator lists.

[ ] Budget time using minutes-per-mark (e.g., 1.5–2 min/mark).

[ ] Never leave blanks: write method steps to earn method marks even if unsure.

[ ] When stuck: mark the question, move on, return later with a fresh mind.

Top 10 common mark leaks (and the fix)

[ ] Sign errors with negatives → slow down on the first line; double-check after expansion.

[ ] Fraction handling → rewrite cleanly; simplify step-by-step; avoid jumping lines.

[ ] Wrong formula (area/volume/trig) → write the formula first; label variables.

[ ] Units ignored → write units every step for rate/speed, mensuration.

[ ] Not stating final answer / rounding wrongly → add a final “Answer:” line; check s.f./d.p.

[ ] Diagram not used → add key angles/lengths onto the diagram before solving.

[ ] Algebra too messy → align equals signs; one transformation per line.

[ ] Graph questions rushed → label axes, intercepts, turning point; check scale.

[ ] Probability tree mistakes → label each branch; multiply along, add across.

[ ] No review time → reserve last 5–10 minutes for “high-value checks.”

Ready for a structured improvement plan?

If you’re scoring below expectations, feel anxious in timed practice, or keep making the same mistakes, we can help you fix the root causes quickly.
WhatsApp BukitTimahTutor.com: +65 8823 1234 (scan the QR in the top banner).

Disclaimer

This PDF is a study guide and checklist. Always refer to the latest MOE/SEAB publications for the most current syllabus and assessment details.