IB Maths AI SL: syllabus checklist

39 points in plain English, grouped by the five syllabus topics.

Tick a box only when you can do that point without notes. Every point has free notes and practice questions at **ibmathrevision.com/syllabus/ib-maths-ai-sl**, where your ticks are also saved.

Topic 1 Number and algebra

- ☐ Simple interest and compound interest
- ☐ Geometric sequences and series
- ☐ Financial mathematics (loans, annuities, depreciation)
- ☐ Scientific notation, approximations and bounds
- ☐ Percentage error and estimation
- ☐ Solving systems of linear equations (up to 3×3)
- ☐ Exponentials and logarithms (base 10 and base e)
- ☐ Number patterns and predictions

Topic 2 Functions

- ☐ Function fundamentals (domain, range, notation)
- ☐ Graphing linear and quadratic functions
- ☐ Graphing exponential and logarithmic functions
- ☐ Piecewise, cubic and other polynomial models
- ☐ Trigonometric (sinusoidal) modelling
- ☐ Real-world applications of functions
- ☐ Solving equations graphically

Topic 3 Geometry and trigonometry

- ☐ Coordinate geometry: distance, midpoint
- ☐ Equations of straight lines
- ☐ Voronoi diagrams and toxic-waste problems
- ☐ Right-angled trigonometry (SOHCAHTOA)
- ☐ Non-right triangles: sine rule + cosine rule
- ☐ 3D geometry: surface area and volume of solids
- ☐ Angles of elevation and depression

Topic 4 Statistics and probability

- ☐ Sampling techniques and bias
- ☐ Descriptive statistics (mean, median, mode, spread)
- ☐ Cumulative frequency, quartiles, IQR
- ☐ Bivariate data: scatter, correlation r
- ☐ Linear regression and predictions
- ☐ Probability rules and Venn diagrams
- ☐ Independent and conditional probability
- ☐ Discrete and normal distributions
- ☐ χ^2 tests for independence and goodness of fit

Topic 5 Calculus

- ☐ Introduction to limits and rates of change
- ☐ Differentiation from first principles (informal)
- ☐ Power rule (positive integer powers)
- ☐ Tangents and normals
- ☐ Local max/min and optimisation
- ☐ Integration as reverse of differentiation
- ☐ Definite integrals and area under curves
- ☐ Trapezoidal rule for approximations

This checklist is written in our own words by IB Math Revision. It is not the official subject guide: always check the International Baccalaureate (IB)'s own document.