Mathematics SL
Units

All Pamoja courses are written by experienced subject matter experts and integrate the principles of TOK and the approaches to learning of the IB learner profile. This course has been authorised by the International Baccalaureate (IB).

Year 1

Unit 1: Course Overview
1:1 - Getting Started
1:2 - Introducing Mathematics SL
1:3 - Assessment and Tools
2:1 - Length, Gradient and Midpoint
2:2 - Linear Equations
2:3 - Trigonometry

Unit 2: Algebra
3:1 - Arithmetic Sequences
3:2 - Geometric Sequences
3:3 - Sigma Notation
4:1 - Arithmetic Series
4:2 - Geometric Series
4:3 - Converging Geometric Series
5:1 - Pascal's Triangle
5:2 - Binomial Theorem

Unit 3: Functions and Equations 1
6:1 - Linear Graphs
6:2 - Parallel and Perpendicular Lines
6:3 - Solving Quadratic Equations by Factorising

Unit 4: Functions and Equations 2
10:1 - y=1xy=1x
10:2 - Rational Functions
10:3 - Graphing rational functions
11:1 - Exponents and Logarithms
11:2 - Laws of Logarithms
11:3 - Using Logarithms
12:1 - Exponential Functions
12:2 - Logarithmic Functions
12:3 - Exponential and Logarithmic Models
13:1 - Transformations
13:2 - Graphs of Inverse Functions

Unit 5: Trigonometry 1
Unit 6: Trigonometry 2
17:1 - The Unit Circle
17:2 - Trigonometric Functions and Graphs
18:1 - Transformations of Trig Graphs
18:2 - Trig Identities
19:1 - Double Angle Formulae
19:2 - Solving Trig Equations Graphically
20:1 - Solving Trig Equations Algebraically
20:2 - Solving Equations using Identities

Unit 8: Calculus 2
24:1 - Tangents
24:2 - Normals
25:1 - Increasing and Decreasing Functions
25:2 - Stationary Points
26:1 - Second Derivatives
26:2 - Graphing using Differentiation
27:1 - Optimisation
28:1 - Kinematics

Unit 9: Review
29:1 - End of Year Review
30:1 - End of Year Exam Paper 1
30:2 - End of Year Exam Paper 2

Unit 10: Statistics and Probability 1
31:1 - Introduction to Probability
31:2 - Visual Representations of Probability
32:1 - More Probability Laws
32:2 - Problems in Probability
33:1 - Conditional Probability
33:2 - Independent Events

Year 2
Unit 1: Calculus 3
34:1 - Introducing Mathematics SL
34:2 - Internal Assessment: The Exploration
34:3 - Organising the IA
35:1 - Antiderivatives and Integrals
35:2 - Boundary Conditions
36:1 - Integrating Trigonometric and Exponential Functions
36:2 - Reversing the Chain Rule
36:3 - Using Trig Identities in Integration
37:1 - Integration by Inspection
37:2 - More on Integral Leading to Logs

Unit 2: Calculus 4
38:1 - Definite Integrals Part 1
38:2 - Definite Integrals Part 2
39:1 - Area Under a Curve
39:2 - Area Between Two Curves
39:3 - Volume of Revolution
40:1 - Kinematics- Finding Velocity and Acceleration
40:2 - Kinematics- Finding Displacement

Unit 3: Vectors
41:1 - Introducing Vectors
41:2 - More about Vectors
42:1 - Magnitude and Unit Vectors
43:1 - Scalar Product
43:2 - Applying the Scalar product
44:1 - Vector Equation of a Line in 2D
44:2 - Kinematics and Vectors
45:1 - Vector equation of a line in 3D
45:2 - Intersections of Lines in 3D

Unit 4: Statistics and Probability 2
46:1 - Grouped Data and the Mean
46:2 - Measures of Dispersion
47:1 - Representing Data
47:2 - Box and Whisker Diagrams
48:1 - Internal Assessment Write Up 1
48:2 - Internal Assessment Consent Form
49:1 - Internal Assessment Write Up 2
50:1 - Trial Exam Review
51:1 - Trial Exam Paper 1
51:2 - Trial Exam Paper 2
52:1 - Cumulative Frequency
52:2 - Scatter Graphs and Correlation
53:1 - Pearson's Product—Moment Correlation Coefficient
53:2 - Lines of Best Fit and Regression
53:3 - Internal Assessment Submission

Unit 5: Statistics and Probability 3
54:1 - Discrete Random Variables
54:2 - Working with Discrete Random Variables
55:1 - Binomial Distribution
55:2 - Working With Binomial Distributions
56:1 - The Normal Distribution
56:2 - The Z Distribution
56:3 - Statistics for maths SL
57:1 - Probability Review
Unit 6: Review

58:1 - Exam Review One