MATHEMATICS IB SL CURRICULUM COURSE OUTLINE 2023 - 2025

Chapter 2   Represent Relationships: Introduction to Functions

1	Lesson 1	What is a Function?		
2	Lesson 2	Function Notation		
3	Lesson 3	Drawing Graphs of Functions		
4	Lesson 4	The Domain and Range of a Function		
5	Lesson 5	Composite Functions		
6	Lesson 6	Inverse Functions		

Chapter 3   Modeling Relationships: Linear & Quadratic Functions

7	Lesson 1	Gradient of a linear Function	
8	Lesson 2	Linear Functions	
9	Lesson 3	Transformations of Functions	
10	Lesson 4	Graphing Quadratic Functions	
11	Lesson 5	Solve Quadratic Eq's by Factoring	
12	Lesson 6	Quadratic Formula and the Discriminant	
13	Lesson 7	Applications of Quadratics	

Chapter 4   Equivalent Expressions: Rational Functions

14	Lesson 1	The Reciprocal Function	
15	Lesson 2	Transforming Riciprocal Functions	
16	Lesson 3	Rational functions in form $f(x)=(ax+b)/(cx+d)$	

Chapter 1   From Patterns to Generalizations: Sequences and Series

17	Lesson 1	Number Patterns and Sigma Notation	
18	Lesson 2	Arithmetic & Geometric Sequences	
19	Lesson 3	Arithmetic & Geometric Series	
20	Lesson 4	Applications of Arithmetic & Geometric Patterns	
21	Lesson 5	The Binomial Theorem	
	Lesson 6	Proofs	Skip

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Chapter 6   Representing Data: Statistics for Univariate Data

22	Lesson 1	Sampling	
23	Lesson 2	Presentation of Data	
24	Lesson 3	Measures of Central Tendency	
25	Lesson 4	Measures of Dispersion	

Chapter 7   Modelling Relationships Between Two Data Sets: Stats for Bivariate Data

26	Lesson 1	Scatter Diagrams	
27	Lesson 2	Measuring Correlation	
28	Lesson 3	The Line of Best Fit	
29	Lesson 4	Least Squares Regression	

Chapter 8   Quantifying Randomness: Probability

30	Lesson 1	Theoretical & Experimental Probability	
31	Lesson 2	Represent Probabilities: Venn Diagrams/Sample Spaces	
32	Lesson 3	Independent & Dependent Events & Conditional Prob.	
33	Lesson 4	Probability Tree Diagrams	

Chapter 14   Valid Comparisons & Informed Decisions: Probability Distributions

34	Lesson 1	Random Variables	
35	Lesson 2	The Binomial Distribution	
36	Lesson 3	The Normal Distribution	

Chapter 9   Representing Equivalent Quantities: Exponentials & Logarithms

37	Lesson 1	Exponents	
38	Lesson 2	Logarithms	
51	Lesson 3	Derivatives of Exponential Fn's & Natural Log Fn's	

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Chapter 11   Relationships in Space: Geometry & Trigonometry (2D & 3D)

39	Lesson 1	The Geometry of 3D Shapes	
40	Lesson 2	Right Angled Triangle Trigonometry	
41	Lesson 3	The Sine Rule	
42	Lesson 4	The Cosine Rule	
43	Lesson 5	Applications of Right & Non-Right Angled Trigonometry	

Chapter 12   Periodic Relationships: Trigonometric Functions

44	Lesson 1	Radian Measure, Arcs, Sectors and Segments	
45	Lesson 2	Trigonometric Ratios in the Unit Circle	
46	Lesson 3	Trigonoemetric Identities and Equations	
47	Lesson 4	Trigonometric Functions	

Chapter 5   Measuring Change: Differentiation

48	Lesson 1	Limits and Convergence	
49	Lesson 2	The Derivative Function	
50	Lesson 3	Differentiaion Rules	
51	Lesson 3*	Derivatives of Exponential Fn's & Natural Log Fn's	
52	Lesson 4	Graphical Interpretation of 1st & 2nd Derivatives	
53	Lesson 5	Application of Differential Calculus. Optimization	

Chapter 10   From Approximation to Generalization: Integration

54	Lesson 1	Antiderivatives & the Indefinite Integral	
55	Lesson 2	More on Indefinite Integrals	
56	Lesson 3	Area & Definite Integrals	
57	Lesson 4	Fundamental Theorem of Calculus	
58	Lesson 5	Area between Two Curves	

Chapter 13   Modelling Change: More Calculus

59	Lesson 1	Derivatives with Sine and Cosine	
60	Lesson 2	Applications of Derivatives	
61	Lesson 3	Integration with Sine, Cosine and Substitution	
62	Lesson 4	Kinematics and Accumulating Change	

HW #	# days	Total Days
1	0.5	
2	0.5	
3	1	
4	2	
5	2	
6	1	7
7	1	
8	4	
9	2	
10	3	
11	2	
12	3	
13	2	
		25
14	2	
15	1	
16	2	30
17	2	
18	3	
19	3	
20	2	
21	2	42
22		

23	1	
24	1	
25	2	
26	4	50

27	1	
28	1	
29	1	
30	2	55

31	2	
32	4	
33	2	
34	2	66

35	2	
36	5	
37	6	79

38	4	
39	6	
40	2	91

41	2	
42	3	
43	2	
44	2	
45	2	102

46	3	
47	1	
48	3	
49	5	114

48	2	
49	4	
50	4	
51	2	
52	6	
53	3	135

54	3
55	2
56	3
57	3
58	3

59
60
61
62