IB Math SL Complete Revision

Final Exam – November 2018

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Dates: 4th August 2018 - 20th Oct 2018 (Saturdays,1pm-3pm)

Location: TMC Academy – 250 Middle Road, 188983

	Date	Topic	Description		
1	04th Aug 1pm-3pm	Algebra	- Arithmetic, geometric sequences - Sigma notation - Non-arithmetic and non-geometric sequences - Modeling with sequences	- Operations of Exponents and logs -Solving exponential and log equations	- Finding terms in binomial expansion - General (n+1 th) term - Finding a, b or n in $(a+b)^n$
2	11th Aug 1pm-3pm	Functions and Equations 1	- Domain range - Composite functions - Identity functions - Inverse functions	- Graphs of functions - Max, min, asymptotes, inverse - Sketch functions using GDC - Solving equations of graphs	- Translations, reflections and stretches - composite transformations - Rational functions
3	18th Aug 1pm-3pm	Functions and Equations 2	- Quadratic functions - Quadratic transformations	- Exponential and log functions - Exp and log transformations - Growth and decay applications	- Reciprocal functions - Applications of graphing skills
4	25th Aug 1pm-3pm	Circular functions and trigonometry 1	- Radian measure - Arcs and sectors	- Sine rule, cosine rule - Area of a triangle - Bearings - Angle of elevation and depression	- Unit circle - Definitions of sine, cosine and tangent - Trigonometric Identities
5	1st Sep 1pm-3pm	Circular functions and trigonometry 2	- Solving trigonometric equations	- Circular functions (sine and cosine) - Transformations and applications of circular functions	
6	08th Sep 1pm-3pm	Statistics and Probability 1	- Representation of continuous and discrete data - Histograms, box and whisker plots. - Population, sample - Statistical measures of central tendency - mean, median, mode, quartiles.	- Measures of spread - Cumulative frequency and its graphs - Quartiles and percentiles - Effect of changes to original data, applications	- Linear correlation and bivariate data - r value, linear regression - Use of GDC
7	15th Sep 1pm-3pm	Statistics and Probability 2	- Probability of events- trails, outcomes. - Venn diagram and tree diagrams	- Combined events, mutually exclusive events, conditional probability, - Independent events, probability laws	- Discrete random variables - Expectation
8	22nd Sep 1pm-3pm	Statistics and Probability 3	- Binomial distribution, - Mean and variance of a binomial distribution	- Normal distribution curves - Standardised normal distribution (z distribution) - Quantiles (k values)	- Mixed statistics and probability problems
9	29th Sep 1pm-3pm	Calculus 1	- Limits and convergence - Instantaneous and average rates - Slope function from first principles - Gradients and tangents	- Derivatives of x^n(Power rule), sin(nx), cos(nx), tan(nx), e^{nx} and ln(nx). - Chain rule and substitution - Product rule, quotient rule, - Second derivative and higher derivatives	- Graphs - maximums, minimums, points of inflexion - Relationship between derivatives - Optimisation applications
10	06th Oct 1pm-3pm	Calculus 2	- Indefinite integration - Integration by inspection or substitution	- Anti-diffentiation with boundary conditions - Definite integrals	- Area under the curves, use of GDC - Volumes of revolution, use of GDC
11	13th Oct 1pm-3pm	Calculus 3 Vectors 1	- Kinematics - Mixed integration and differentiation problems	- Vectors in 2D and 3D - Vector algebra, magnitude, unit vectors	- Scalar Product, perpendicular and parallel vectors, angle between two vectors
12	20th Oct 1pm-3pm	Vectors 2	- Vector equation of a line in 2D and 3D - Angle between two lines	- Distinguishing if two vectors are parallel, coincident or skew - Intersection of two lines	- Applications of vectors - Displacement, velocity, speed

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