

COURSE PLAN - Mathematics (CAPS)

GRADE 11
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ALGEBRA			
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Rational (Fractions) Exponents	11M049		
Exponential Equations	11M066		
Quadratic Exponential Equations	11M141		
Surds $\sqrt{\quad}$			
Simplifying surds and Calculations	11M050		
Rationalising the Denominator	11M120		
Surd Equations	11M121		
Completing the Square $\square$			
Completing the Square	11M043		
Minimum and Maximum			
Finding Values	11M140		
Algebraic Fractions			
Simplifying Fractions and Equations	11M045		
Equations			
Quadratic Equations	11M044		
Simultaneous Equations	11M047		
Inequalities			
Quadratic Inequalities	11M046		
Nature of Roots			
Basics	11M106		
Graphically	11M107		
More Advanced	11M108		
Restrictions $\neq$			
Fractions and Roots	11M051		
NUMBERS AND PATTERNS			
Numbers			
Real and Non-Real Numbers	11M001		
Patterns			
Linear Patterns	11M002		
Quadratic Patterns	11M122		
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Equation of a Straight Line	11M035		
Parallel and Perpendicular Lines	11M036		
Angles of Inclination	11M037		

Description	Lesson	Test 1	Test 2
GRAPHS AND FUNCTIONS			
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Drawing the Parabola	11M004		
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Reflecting in the x- and y-axis	11M007		
Translating (moving) the Parabola	11M008		
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Reflecting in the x- and y-axis	11M029		
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Exponential Graphs			
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Properties (Domain, Range, etc)	11M056		
Reflecting in the x- and y-axis	11M057		
Mixed Graphs			
Translating (moving) graphs	11M058		
Finding Length (Distance)	11M063		
Finding where graphs lie – On, Above and Below the x-axis and Each Other	11M064		
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30°, 45° and 60°	11M019		
Reduction Formulae			
180° and 360°	11M020		
Co-functions 90°	11M021		
Identities			
Simplifying and Proving	11M022		
Equations			
Basic Equations	11M023		
Advanced Equations	11M024		
Without a Calculator	11M054		

LEARN

PRACTICE

SUCCEED

$$a^2 + b^2 = c^2$$

Description	Lesson	Test 1	Test 2
Sin, Cos and Area Rule			
Area Rule	11M028		
Sin Rule	11M025		
Cos Rule	11M026		

2D Problems			
Sin, Cos and Area Rule	11M030		
More examples with "Letters"	11M003		

Trig Graphs			
$\sin kx, \cos kx$ and $\tan kx$	11M032		
$\sin (x+p), \cos (x+p)$ and $\tan (x-p)$	11M034		
$\sin k(x+p), \cos k(x-p)$ and $\tan k(x-p)$	11M090		
Mixed Graphs	11M142		

MEASUREMENT			
Revision and Changing Dimensions (scale factor)	11M059		
Pyramids, Cones and Spheres	11M060		

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Revision and Changing Dimensions (scale factor)	11M061		
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EUCLIDEAN GEOMETRY			
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FINANCE			
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Compound Growth	11M038		
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Timelines	11M040		
Nominal and Effective Rates			
Nominal and Effective Rates	11M039		
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Description	Lesson	Test 1	Test 2
PROBABILITY			
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STATISTICS			
Displaying Data			
Histograms	11M118		
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With Outliers	11M110		

Cumulative Frequency			
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Oqives			
Draw and Read	11M015		

Variance and Standard Deviation			
Ungrouped (Raw) Data	11M016		

Symmetrical and Skewed Data			
Shape of Data	11M013		

Scatter Plots			
Bivariate Data and Scatter Plots	11M017		
With Outliers	11M111		

NOTES



Maths
Builds
Brighter
Futures



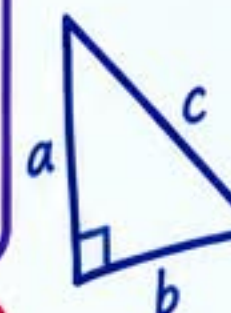
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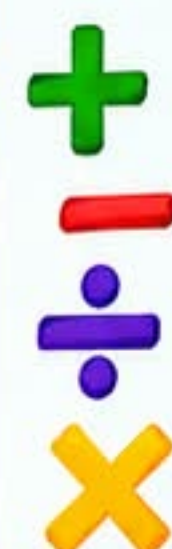
GRADE 12



$$\frac{dy}{dx}$$



$$P(A) = \frac{n(A)}{n(S)}$$



NUMBERS AND PATTERNS

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Description	Lesson	Test 1	Test 2
Arithmetic Sequences	12M001		
Geometric Sequences	12M002		
Sigma Notation	12M003		
Arithmetic Series (Sum)	12M004		
Geometric Series (Sum)	12M005		
Sum to Infinity	12M006		

ALGEBRA

X

Logarithms

Definitions	12M024		
Law 3 and Solving	12M025		

Basic Functions

Types of Functions	12M026		
f(x) Notation	12M027		

Inverse Functions

Straight Line and Hyperbola	12M028		
Parabola and others	12M029		
Exponential and Logarithmic	12M030		

Factorisation

Factor Theorem	12M069		
Remainder Theorem	12M070		
3 rd Degree Polynomials	12M012		

FINANCE



Finding n

Using Logarithms	12M037		
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Annuities

Future Value	12M031		
Sinking Funds	12M032		
Present Value	12M033		

TRIGONOMETRY



Compound Angles

Expressions	12M007		
Identities	12M097		
Equations	12M008		

Double Angles

Expressions and Identities	12M009		
Equations	12M036		

3D Problems



3D Problems	12M010		
Examples with "Letters"	12M096		

Graphs



Mixed Graphs	12M011		
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CALCULUS

J

Differentiation

Limits	12M013		
1 st Principles	12M014		
Rules	12M015		
Tangents to Curves	12M016		
Drawing a Cubic Graph	12M017		
Equations of a Cubic Graph	12M076		
Properties of a Cubic Graph	12M018		
Derivative Graphs	12M019		
Optimization (Max and Min)	12M020		
Speed	12M021		

ANALYTICAL GEOMETRY



Circle at the Origin	12M022		
Circle any Centre	12M023		

EUCLIDEAN GEOMETRY



Similarity

Revision	12M063		
Equal and Proportional Areas	12M064		
Proportionality Theorem	12M065		
Pythagoras	12M071		

STATISTICS



Regression and Correlation

Finding Equations and Drawing Predictions	12M066		
Using the Regression Line to make Predictions	12M067		
Correlation Coefficient	12M068		
More advanced examples	12M072		

PROBABILITY



Fundamental Counting Principle

Repetition allowed	12M073		
Repetition NOT allowed	12M074		

NOTES

