

Mathematics Continuum of Learning

Based on *Mathematics K-10 Syllabus, Board of Studies, 2012*. Built from *Mathematics Standard Stage Syllabus, NESA, 2017*.
This is not an authorised NESA document. It was developed for the purposes of planning.

Unofficial

- In Stage 5.2:** ◊ In the 2012 Mathematics 7-10 Syllabus, this icon indicates Stage 5 content recommended for the Preliminary Mathematics
- Identified in the Standard Syllabus as a topic for completion in Stage 5 for Year 11 Standard students.
 - Identified in the Course Description as assumed knowledge for Standard students.
 - ▷ Not identified as pre-requisite for Year 11, but maybe should have been.

7 - 10		Standard			
Stage 5.1	Stage 5.2	Year 11	Year 12 Standard 1	Year 12 Standard 2	
Number and Algebra					
Financial Mathematics MA5.1-4NA solves financial problems involving earning, spending and investing money	■ Financial Mathematics ◊ MA5.2-4NA solves financial problems involving compound interest	Financial Mathematics			
		Money Matters MS-F1 Money Matters	Financial Mathematics MS-F2 Investment MS-F3 Depreciation and Loans	Financial Mathematics MS-F4 Investments and Loans MS-F5 Annuities	
	▷ Ratios and Rates MA5.2-5NA recognises direct and indirect proportion, and solves problems involving direct proportion	Measurement		Rates MS-M4 Rates	Rates and Ratios MS-M7 Rates and Ratios
	Algebraic Techniques MA5.2-6NA simplifies algebraic fractions, and expands and factorises quadratic expressions				
Indices MA5.1-5NA operates with algebraic expressions involving positive-integer and zero indices, and establishes the meaning of negative indices for numerical bases	Indices MA5.2-7NA applies index laws to operate with algebraic expressions involving integer indices				
		Algebra			
	◦ Equations MA5.2-8NA solves linear and simple quadratic equations, linear inequalities and linear simultaneous equations, using analytical and graphical techniques	Formulae and Equations MS-A1 Formulae and Equations			
Linear Relationships MA5.1-6NA determines the midpoint, gradient and length of an interval, and graphs linear relationships	■ Linear Relationships MA5.2-9NA uses the gradient-intercept form to interpret and graph linear relationships	Linear Relationships MS-A2 Linear Relationships	Types of Relationships MS-A3 Types of Relationships, A3.1 Simultaneous linear equations	Types of Relationships MS-A4 Types of Relationships, A4.1 Simultaneous linear equations	
Non-Linear Relationships MA5.1-7NA graphs simple non-linear relationships	■ Non-Linear Relationships ◊ MA5.2-10NA connects algebraic and graphical representations of simple non-linear relationships	Types of Relationships MS-A3 Types of Relationships, A3.2 Graphs of practical situations		Types of Relationships MS-A4 Types of Relationships, A4.2 Non-linear relationships	
Measurement and Geometry					
Area and Surface Area MA5.1-8MG calculates the areas of composite shapes, and the surface areas of rectangular and triangular prisms	◦ Area and Surface Area MA5.2-11MG calculates the surface areas of right prisms, cylinders and related composite solids	Measurement			
	◦ Volume MA5.2-12MG applies formulas to calculate the volumes of composite solids composed of right prisms and cylinders	Applications of Measurement MS-M1, M1.2 Perimeter, area and volume			

Stage 5.1	Stage 5.2	Year 11	Year 12 Standard 1	Year 12 Standard 2
Mass ← Stage 3		Applications of Measurement MS-M1, M1.3 Units of energy and mass		
Numbers of Any Magnitude MA5.1-9MG interprets very small and very large units of measurement, uses scientific notation, and rounds to significant figures		Working with Time MS-M2 Working with Time		
Right-Angled Triangles (Trigonometry) MA5.1-10MG applies trigonometry, given diagrams, to solve problems, including problems involving angles of elevation and depression	<ul style="list-style-type: none"> Right-Angled Triangles (Trigonometry) ◊ MA5.2-13MG applies trigonometry to solve problems, including problems involving bearings 	Applications of Measurement MS-M1, M1.2 Perimeter, area and volume (Pythagoras)	Right-angled Triangles MS-M3 Right-angled Triangles	Non-right-angled Trigonometry MS-M6 Non-right-angled Trigonometry
Properties of Geometrical Figures MA5.1-11MG describes and applies the properties of similar figures and scale drawings	Properties of Geometrical Figures MA5.2-14MG calculates the angle sum of any polygon and uses minimum conditions to prove triangles are congruent or similar		Scale Drawings MS-M5 Scale Drawings	Rates and Ratios MS-M7 Rates and Ratios
Statistics and Probability		Statistical Analysis		
Single Variable Data Analysis MA5.1-12SP uses statistical displays to compare sets of data, and evaluates statistical claims made in the media	<ul style="list-style-type: none"> Single Variable Data Analysis ◊ MA5.2-15SP uses quartiles and box plots to compare sets of data, and evaluates sources of data 	Data Analysis MS-S1 Data Analysis	Further Statistical Analysis MS-S3 Further Statistical Analysis, S3.1: The statistical investigation process for a survey	The Normal Distribution MS-S5 The Normal Distribution
	Bivariate Data Analysis MA5.2-16SP investigates relationships between two statistical variables, including their relationship over time		Further Statistical Analysis MS-S3 Further Statistical Analysis, S3.2: Exploring and describing data arising from two quantitative variables	Bivariate Data Analysis MS-S4 Bivariate Data Analysis
Probability MA5.1-13SP calculates relative frequencies to estimate probabilities of simple and compound events	<ul style="list-style-type: none"> Probability MA5.2-17SP describes and calculates probabilities in multi-step chance experiments 	Relative Frequency and Probability MS-S2 Relative Frequency and Probability		
			Networks	
			Networks and Paths MS-N1 Networks and Paths	Network Concepts MS-N2 Network Concepts
				Network Concepts MS-N3 Critical Path Analysis

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