CambridgeMATHS NSW Stage 5 Year 9 Core & Advanced / Extension Paths

Every section of every chapter mapped to the NSW Syllabus

Key:

Consolidating Stage 4 and Year 9	This book provides some opportunities to consolidate prior learning.
Stage 4 plus Stage 5 Core	Some sections begin in Stage 4 then progress to Stage 5 Core.
Stage 5 Core	The treatment of Stage 5 Core is somewhat faster than our Core & Standard Path books.
Stage 5 Core and Stage 5 Path (Adv)	These are identified as 'Path topics for Advanced'. They occur in both books.
Stage 5 Core and Stage 5 Path (Ext)	These are identified as 'Path topics for Extension'. They occur in both books.
Extending beyond Stage 5 Core and Path Topics	These sections cover extra concepts which are somewhat useful for Stage 6 Standard

	Chapter 1 Reviewing number and financial mathematics	
1A	Integer operations	Consolidating Stage 4
1B	Decimal places and significant figures	Stage 4 plus Stage 5 Core: *Numbers of any magnitude*
1C	Rational numbers	Consolidating Stage 4
1D	Operations with fractions	Consolidating Stage 4
1E	Ratios, rates and best buys	Consolidating Stage 4
1F	Percentages and money	Consolidating Stage 4
1G	Percentage increase and decrease	Consolidating Stage 4
1H	Profits and discounts	Consolidating Stage 4
1I	Income	Stage 5 Core: *Financial mathematics A*
1J	The PAYG income tax system	Stage 5 Core: *Financial mathematics A*
1K	Simple interest	Stage 5 Core: *Financial mathematics A*
1L	Compound interest and depreciation	Stage 5 Core: *Financial mathematics B*
1M	Using a formula for compound interest and depreciation	Stage 5 Core: *Financial mathematics B*
	Chapter 2 Expressions and linear equations	
2A	Algebraic expressions	Consolidating Stage 4
2B	Simplifying algebraic expressions	Consolidating Stage 4
2C	Expanding algebraic expressions	Stage 5 Core: *Algebraic techniques A*
2D	Linear equations with pronumerals on one side	Stage 5 Core: *Equations A*
2E	Linear equations with brackets and pronumerals on both sides	Stage 5 Core: *Equations A*
2F	Solving word problems	Stage 5 Core: *Equations A*
2G	Solving inequalities	Stage 5 Path (Adv): *Equations B*
2H	Using formulas	Stage 5 Core: *Equations A*
2I	Simultaneous equations using substitution	Stage 5 Path (Adv): *Equations C*
2J	Simultaneous equations using elimination	Stage 5 Path (Adv): *Equations C*
2K	Applications of simultaneous equations	Stage 5 Path (Adv): *Equations C*
	Chapter 3 Pythagoras' theorem and trigonometry	
3A	Pythagoras' theorem	Consolidating Stage 4
3B	Finding the length of the shorter sides	Consolidating Stage 4
3C	Using Pythagoras' theorem to solve two-dimensional problems	Consolidating Stage 4
3D	Using Pythagoras' theorem to solve three-dimensional problems	Stage 5 Path (Stan/Adv): *Trigonometry C*
3E	Trigonometric ratios	Stage 5 Core: *Trigonometry A*
3F	Finding unknown side lengths	Stage 5 Core: *Trigonometry A*
3G	Solving for the denominator	Stage 5 Core: *Trigonometry A*
3H	Finding unknown angles	Stage 5 Core: *Trigonometry A*
3I	Applying trigonometry	Stage 5 Core: *Trigonometry B*
3J	Bearings	Stage 5 Core: *Trigonometry B*
	Chapter 4 Linear relationships	
4A	Introduction to linear relationships	Consolidating Stage 4
4B	Graphing straight lines using intercepts	Stage 5 Path (Adv): *Linear relationships C*
4C	Lines with one intercept	Stage 5 Core: *Linear relationships A*
4D	Gradient	Stage 5 Core: *Linear relationships A*
4E	Gradient and direct proportion	Stage 5 Core: *Linear relationships A and Variation A*
4F	Gradient–intercept form	Stage 5 Core: *Linear relationships A and B*
4G	Finding the equation of a line	Stage 5 Core: *Linear relationships A and B*
4H	Midpoint and length of a line segment	Stage 5 Core: *Linear relationships A*
4I	Parallel and perpendicular lines	Stage 5 Core and Stage 5 Path (Adv): *Linear relationships C*
4J	Linear modelling	Stage 5 Core: *Linear relationships A*
4K	Graphical solutions to simultaneous equations	Stage 4, Stage 5 Core: *Non- linear relationships C* and Stage 5 Path (Adv): *Equations C*
	Chapter 5 Measurement	
5A	Length and perimeter	Consolidating Stage 4
5B	Circle circumference and perimeter of a sector	Consolidating Stage 4
5C	Area	Consolidating Stage 4
5D	Perimeter and area of composite shapes	Stage 4, Stage 5 Core: *Area and surface area A*
5E	Surface area of prisms and pyramids	Stage 5 Core and Path (Stan/Adv): *Area and surface area A and B*
5F	Surface area of cylinders	Stage 5 Core: *Area and surface area A*
5G	Volume of prisms	Stage 5 Core: *Volume A*
5H	Volume of cylinders	Stage 5 Core: *Volume A*
	Chapter 6 Indices and surds	
6A	Index notation	Stage 4 and Stage 5 Core: *Indices A*
6B	Index laws for multiplication and division	Stage 5 Core: *Indices A*
6C	Index law for power of a power and the zero index	Stage 5 Core: *Indices A*
6D	Index laws for brackets and fractions	Stage 5 Path (Adv): *Indices B*
6E	Negative indices	Stage 5 Path (Adv): *Indices B*
6F	Scientific notation	Stage 5 Core: *Numbers of any magnitude*
6G	Scientific notation using significant figures	Stage 5 Core: *Numbers of any magnitude*

6H	Fractional indices and surds	Stage 5 Path (Adv): *Indices C*
6I	Simple operations with surds	Stage 5 Path (Adv): *Indices C*
	Chapter 7 Geometry	
7A	Angles and triangles	Consolidating Stage 4
7B	Parallel lines	Consolidating Stage 4
7C	Quadrilaterals and other polygons	Stage 5 Path (Ext): *Properties of geometrical figures B and C*
7D	Congruent triangles	Stage 5 Path (Ext): *Properties of geometrical figures B and C*
7E	Using congruence in proof	Stage 5 Path (Ext): *Properties of geometrical figures B and C*
7F	Enlargement and similar figures	Stage 5 Core: Properties of geometrical figures A
7G	Similar triangles	Stage 5 Path (Ext): *Properties of geometrical figures B and C*
7H	Proving and applying similar triangles	Stage 5 Path (Ext): *Properties of geometrical figures B and C*
	Chapter 8 Algebraic techniques	
8A	Expanding binomial products	Stage 5 Core and Stage 5 Path (Adv): *Algebraic techniques B and C*
8B	Perfect squares and difference of two squares	Stage 5 Path (Adv): *Algebraic techniques C*
8C	Factorising algebraic expressions	Stage 5 Core and Stage 5 Path (Adv): *Algebraic techniques B*
8D	Factorising the difference of perfect squares	Stage 5 Path (Adv): *Algebraic techniques C*
8E	Factorising by grouping	Stage 5 Path (Adv): *Algebraic techniques C*
8F	Factorising monic quadratic trinomials	Stage 5 Path (Adv): *Algebraic techniques B*
8G	Factorising trinomials of the form ax2 + bx +c	Stage 5 Path (Adv): *Algebraic techniques C*
8H	Simplifying algebraic fractions: Multiplication and division	Stage 5 Core and Stage 5 Path (Adv): *Algebraic techniques B and C*
8I	Simplifying algebraic fractions: Addition and subtraction	Stage 5 Core and Stage 5 Path (Adv): *Algebraic techniques B and C*
8J	Further simplification of algebraic fractions	Stage 5 Path (Adv): *Algebraic techniques B and C*
8K	Equations with algebraic fractions	Stage 5 Path (Adv): *Equations C*
	Chapter 9 Probability and statistics	
9A	Probability review	Consolidating Stage 4
9B	Venn diagrams and two-way tables	Stage 5 Path (Adv): *Probability B*
9C	Using set notation	Extending beyond Stage 5 Core and Path Topics
9D	Using arrays for two-step experiments	Stage 5 Core: *Probability A*
9E	Using tree diagrams	Stage 5 Core: *Probability A*
9F	Using relative frequencies to estimate probabilities	Stage 5 Core: *Probability A*
9G	Data and sampling	Stage 5 Path (Stan/Adv): *Data Analysis C*
9H	Mean, median and mode	Consolidating Stage 4
9I	Stem-and-leaf plots	Consolidating Stage 4
9J	Grouping data into classes	Extending beyond Stage 5 Core and Path Topics
9K	Measures of spread: range and interquartile range	Stage 5 Core: *Data analysis A*
9L	Box plots	Stage 5 Core: *Data analysis A*
	Chapter 10 Introduction to quadratic equations and graphs	
10A	Quadratic equations	Stage 5 Path (Adv): *Equations B and C*
10B	Solving $ax^2 + bx = 0$ and $x^2 = d$	Stage 5 Path (Adv): *Equations B and C*
10C	Solving $x^2 + bx + c = 0$ by factorising	Stage 5 Path (Adv): *Equations B and C*
10D	Using quadratic equations to solve problems	Stage 5 Path (Adv): *Equations B and C*
10E	The parabola	Stage 5 Core and Path (Adv): Non-linear relationships *A, B and C*
10F	Sketching $y = ax^2$ with dilations and reflections	Stage 5 Core and Path (Adv): Non-linear relationships *A, B and C*
10G	Sketching translations of $y = x^2$	Stage 5 Core and Path (Adv): Non-linear relationships *A, B and C*
10H	Sketching parabolas using intercept form	Stage 5 Core and Path (Adv): Non-linear relationships *A, B and C*

Contents are subject to change prior to publication