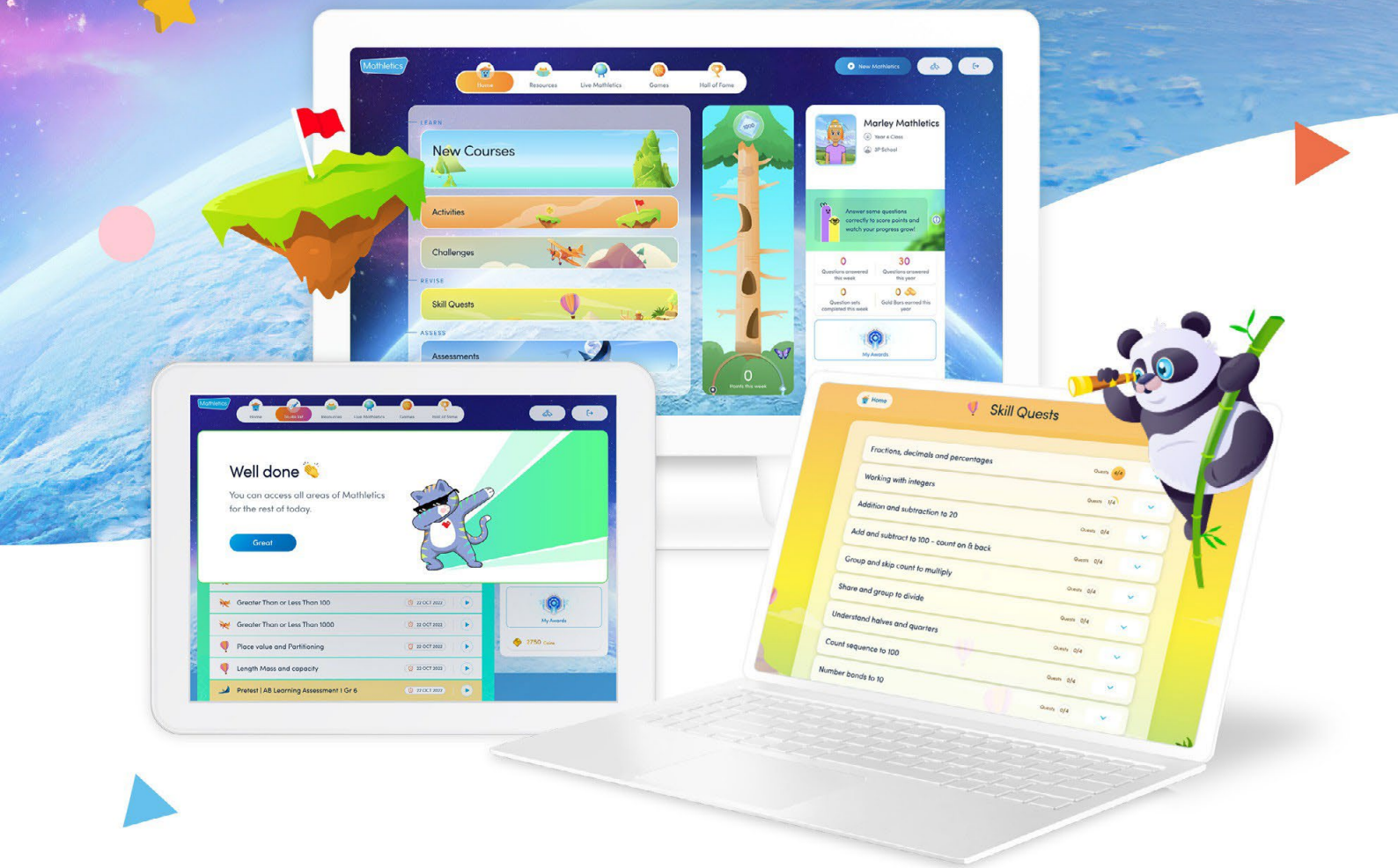
Mathletics

New South Wales Curriculum

Activities (Courses) and Skill Quests



Stage 5

January, 2025

Mathletics

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NSW Curriculum

Activities (Courses) & Skill Quests

January, 2025

Stage 5 Core

1 Number and Algebra

1.1 Financial Mathematics A

MA5-FIN-C-01 solves financial problems involving simple interest, earning money and spending money	
Course Topics	**Activities**
Financial maths A: income & simple interest	Wages and Salaries
	Commission
	Working Overtime
	Special Allowances
	Bonuses and Leave Loading
	Piecework and Royalties
	Calculating Income Tax
	Deductions and Tax Instalments
	Net Pay
	Simple Interest
Financial maths A: spending money	Purchase Options
	Credit Card Repayments
	Comparing Loans
	Comparing Home Loans
Topics	**Skill Quests**
Solve problems involving simple interest	Calculating simple interest
Solve problems involving spending money	Understanding hire purchase agreements

1.2 Financial mathematics B

MA5-FIN-C-02 solves financial problems involving compound interest and depreciation	
Course Topics	**Activities**
Financial maths B: compound interest	Compound Interest
	Compound Interest by Formula
	Future Value of Investments 1
	Future Value of Investments 2
	Straight Line Depreciation
	Depreciation
	Declining Balance Depreciation
Topics	**Skill Quests**
Compound & simple interest	Calculating compound interest
	Solving problems with compound interest
	Comparing simple & compound interest
Appreciation & depreciation	Understanding appreciation
	Understanding depreciation

1.3 Algebraic techniques A

MA5-ALG-C-01 simplifies algebraic fractions with numerical denominators and expands algebraic expressions	
Course Topics	**Activities**
Algebraic techniques A: algebraic fractions	Algebraic Fractions 1
	Algebraic Fractions 2
Algebraic techniques A: expansion	Expanding with Negatives
	Expand then Simplify
	Expanding Binomial Products
Topics	**Skill Quests**
Use 4 operations in algebraic fractions	Algebraic fractions with numerical denominators
Apply the distributive law to expand	Expanding expressions by removing brackets
	Expanding binomial products using area model

1.4 Indices A

MA5-IND-C-01 simplifies algebraic expressions involving positive-integer and zero indices, and establishes the meaning of negative indices for numerical bases	
Course Topics	**Activities**
Indices A: simplifying with index laws	Index Notation and Algebra
	Multiplication with Indices
	Index Laws and Algebra
	Index Laws with Brackets
	Zero Index and Algebra
	Negative Indices
Topics	**Skill Quests**
Apply index laws using positive indices	Index law for multiplication
	Index law for division
	Index law for a power of a power
	Zero index law
Simplify expressions using index laws	Mixed operations with indices including zero
	Mixed operations with positive indices
Apply index laws using negative indices	Negative index law
	Evaluating numerical expressions (negative index)

1.5 Equations A

MA5-EQU-C-01 solves linear equations of up to 3 steps, limited to one algebraic fraction	
Course Topics	**Activities**
Equations A: solve linear equations	Equations with Grouping Symbols
	Equations with Fractions
	Equations to Solve Problems
	Checking Solutions
	Real Formulae

Topics	Skill Quests
Solve linear equations up to 3 steps	Solving linear equations up to 3 steps
	Solving equations with one algebraic fraction
	Solving linear equation word problems

1.6 Linear relationships A

MA5-LIN-C-01 determines the midpoint, gradient and length of an interval, and graphs linear relationships, with and without digital tools	
Course Topics	**Activities**
Linear relations A: midpoint & distance	Slope of a Line
	Midpoint by Formula
	Distance Between Two Points
	Intercepts
	Pattern Rules and Tables
	Graphing from a Table of Values
	Are they Parallel?
	Horizontal and Vertical Lines
Topics	**Skill Quests**
Midpoint & gradient of a line segment	Calculating gradient without the formula
	Calculating midpoint without the formula
Find the distance between 2 points	Distance between 2 points without the formula
Recognise & graph equations	Graphing equations using a table of values
	Identifying the equation of a line as y=mx+c
Parallel, horizontal & vertical lines	Examining parallel lines
	Examining horizontal lines
	Examining vertical lines

1.7 Linear relationships B

MA5-LIN-C-02 graphs and interprets linear relationships using the gradient/slope-intercept form	
Course Topics	**Activities**
Linear relations B: gradient-intercept form	Equation of a Line 1
	General Form of a Line
	Which Straight Line?
	Modelling Linear Relationships
	Are they Perpendicular?
	Perpendicular and Parallel Lines
	Equation of a Line 3
Topics	**Skill Quests**
Use the gradient-intercept form	Graphing lines using the gradient-intercept form
Equation of parallel/perpendicular lines	Examining parallel & perpendicular lines
	Calculating the equation of parallel lines
	Calculating the equation of perpendicular lines

1.8 Non-linear relationships A

MA5-NLI-C-01 identifies connections between algebraic and graphical representations of quadratic and exponential relationships in various contexts	
Course Topics	**Activities**
Non-linear relations A: link algebra & graphs	Graphing Parabolas
	Quadratic Equations 1
	Monic Quadratic Trinomial Equations
	Equations: Simple Quadratics
	Checking Quadratic Solutions
	Simple Quadratic Equations - How Many Solutions?
	Graphing Exponentials
Topics	**Skill Quests**
Link algebra & the graph of quadratics	Graphing quadratic relationships
Link algebra & the graph of exponentials	Graphing exponential relationships

1.9 Non-linear relationships B

MA5-NLI-C-02 identifies and compares features of parabolas and exponential curves in various contexts	
Course Topics	**Activities**
Non-linear relations B: quadratic/exponential	Parabolas and Marbles
	Parabolas and Rectangles
	Vertex of a Parabola
Topics	**Skill Quests**
Graph quadratic relationships	Examining quadratic relationships
Graph exponential relationships	Examining exponential relationships
Distinguish linear & non-linear graphs	Distinguishing between linear & non-linear graphs

1.10 Numbers of any magnitude

MA5-MAG-C-01 solves measurement problems by using scientific notation to represent numbers and rounding to a given number of significant figures	
Course Topics	**Activities**
Numbers of any magnitude	Error in Measurement
	Percentage Error
	Rounding Significant Figures
	Scientific Notation
	Ordering Scientific Notation
	Scientific notation to decimal
Topics	**Skill Quests**
Identify very small & large measurements	Representing small & large numbers
Find percentage error	Calculating percentage error

Round numbers to a specified accuracy	Identifying the number of significant figures
	Rounding to number of significant figures
Express numbers in scientific notation	Introducing scientific notation
	Numbers with prefixes to scientific notation
	Converting between scientific notation & numbers
	Rounding with scientific notation
	Calculating in scientific notation

2 Measurement & Space

2.1 Trigonometry A

MA5-TRG-C-01 applies trigonometric ratios to solve right-angled triangle problems	
Course Topics	**Activities**
Trigonometry A: right-angled triangle ratios	Hypotenuse, Adjacent, Opposite
	Sin A
	Cos A
	Tan A
	Find Unknown Sides
	Find Unknown Angles
	Degrees and Minutes
	Trigonometry Problems 1
Topics	**Skill Quests**
Understand trigonometric ratios	Introducing trigonometry
	Identifying which trig ratio to use
Apply trigonometry to solve problems	Calculating the unknown side using trig ratios
	Calculating the unknown angle using trig ratios
	Solving 2D problems using trig ratios

2.2 Trigonometry B

MA5-TRG-C-02 applies trigonometry to solve problems, including bearings and angles of elevation and depression	
Course Topics	**Activities**
Trigonometry B: elevation & bearings	Elevation and Depression
	True and Compass Bearings
	Bearings
	Trigonometry Problems 2
Topics	**Skill Quests**
Solve elevation/depression trig problems	Calculating the angle of elevation or depression
Solve trig problems with bearings	Solving trig problems with compass bearings
	Solving trig problems with true bearings

2.3 Area and surface area A

MA5-ARE-C-01 solves problems involving the surface area of right prisms and practical problems involving the area of composite shapes and solids	
Course Topics	**Activities**
Area & surface area A: cylinders & composites	Area: Composite Shapes
	Nets
	Surface Area: Rectangular Prisms
	Surface Area: Triangular Prisms
	Surface Area: Cylinders
Topics	**Skill Quests**
Solve problems involving areas	Calculating area of composite shapes
Solve problems involving surface areas	Connecting surface area of right prism with nets
	Solving problems involving surface areas
	Calculating surface area of cylinders
	Calculating surface area of composite solids

2.4 Volume A

MA5-VOL-C-01 solves problems involving the volume of composite solids consisting of right prisms and cylinders	
Course Topics	**Activities**
Volume A: cylinders & composites	Volume: Composite Figures
Topics	**Skill Quests**
Volume of composite solids	Solving volume problems involving composite solids
	Solving volume problems involving cylinders

2.5 Properties of geometrical figures A

MA5-GEO-C-01 identifies and applies the properties of similar figures and scale drawings to solve problems	
Course Topics	**Activities**
Properties of geo figures A: similar figures	Similar Figures 1
	Similar Figures
	Scale Factor
	Similar Triangles
Topics	**Skill Quests**
Identify properties of similar figures	Identifying similar figure properties
Use scale factors in similar figures	Applying scale factor to enlarge/reduce polygons
	Applying scale factors to polygons
	Applying scale factors to triangles

3 Statistics & Probability

3.1 Data analysis A

MA5-DAT-C-01 compares and analyses datasets using summary statistics and graphical representations	
Course Topics	**Activities**
Data analysis A: standard deviation & IQR	Calculating Standard Deviation
	Data Terms
	Calculating Interquartile Range
	Box-and-Whisker Plots 1
	Box-and-Whisker Plots 2
	Skewness of Data
Topics	**Skill Quests**
Use standard deviation to measure spread	Calculating standard deviation
	Comparing data using mean & standard deviation
Use quartiles & interquartile range	Determining quartiles & interquartile range
Represent data using box plots	Constructing & interpreting box plots
	Comparing box plots

3.2 Data analysis B

MA5-DAT-C-02 displays and interprets datasets involving bivariate data	
Course Topics	**Activities**
Data analysis B: bivariate data	Data Analysis: Scatter Plots
	Correlation
Topics	**Skill Quests**
Understand bivariate data	Identifying & describing bivariate data
	Constructing & interpreting scatter plots
	Determining the line of best fit

3.3 Probability A

MA5-PRO-C-01 solves problems involving probabilities in multistage chance experiments and simulations	
Course Topics	**Activities**
Probability A: multistage chance experiments	Probability With Replacement
	Probability Without Replacement
	Tree Diagrams
Topics	**Skill Quests**
The fundamental counting principle	Understanding the fundamental counting principle
Independent & dependent events	Understanding independent & dependent events
Solve multistage chance experiments	2-step chance experiments with replacement
	2-step chance experiments without replacement
	3-step chance experiments with replacement
	3-step chance experiments without replacement

Stage 5 Path

1 Number and Algebra

1.1 Variation and rates of change A (Path)

MA5-RAT-P-01 identifies and solves problems involving direct and inverse variation and their graphical representations (Path: Stn, Adv)	
Course Topics	**Activities**
Variation & rates of change A (Path)	Solve Proportions
	Ratio and Proportion
	Rates Word Problems
	Average Speed
	Distance Travelled
	Time Taken
	Converting Rates
	Rates
	Travel Graphs
Topics	**Skill Quests**
Understand direct & inverse proportion	Understanding direct & inverse proportion
	Representing the constant of proportionality
	Describing graphs of direct & inverse proportion
	Solving direct/inverse proportion problems
	Interpreting & using conversion graphs
	Graphing equations of direct proportion

1.2 Variation and rates of change B (Path)

MA5-RAT-P-02 analyses and constructs graphs relating to rates of change (Path: Adv)	
Course Topics	**Activities**
Variation & rates of change B (Path): graphs	Gradients for Real
Topics	**Skill Quests**
Analyse rate of change graphs	Interpreting & sketching travel graphs

1.3 Algebraic techniques B (Path)

MA5-ALG-P-01 simplifies algebraic fractions involving indices, and expands and factorises algebraic expressions (Path: Adv)	
Course Topics	**Activities**
Algebraic techniques B (Path): expressions	Algebraic Fractions 2
	Algebraic Fractions 3
	Highest Common Algebraic Factor
	Factorising with Indices

	Expanding Binomial Products
	Grouping in Pairs
	Factorising Quadratics 1
Topics	**Skill Quests**
Use 4 operations in algebraic fractions	Algebraic fractions with pronumeral denominators
Factorise by removing the common factor	Factorising by removing the common number
	Factorising by removing common letters (& powers)
	Factorising by removing the HCF (number & letters)
Expand binomial products	Expanding binomial products
Factorise monic quadratic trinomials	Factorising monic quadratic trinomials

1.4 Algebraic techniques C (Path)

MA5-ALG-P-02 selects and applies appropriate algebraic techniques to operate with algebraic fractions, and expands, factorises and simplifies algebraic expressions (Path: Adv)	
Course Topics	**Activities**
Algebraic techniques C (Path): fractions	Simplify Algebraic Fractions by Factorising
	Partial Fractions
	Factorising and Fractions 1
	Factorising and Fractions 2
	Special Binomial Products
	Factorising Quadratics 2
	Completing the Square
	Completing the Square 2
	Sum and Difference of Cubes
Topics	**Skill Quests**
Expand algebraic expressions	Expanding expressions with special products
Factorise algebraic expressions	Factorising using difference of 2 squares
	Factorising non-monic quadratic expressions
	Factorising using perfect squares
	Factorising quadratic trinomials
Simplify algebraic expressions	Simplifying binomial expansions
	Simplifying algebraic fractions by factorising

1.5 Indices B (Path)

MA5-IND-P-01 applies the index laws to operate with algebraic expressions involving negative-integer indices (Path: Adv)	
Course Topics	**Activities**
Indices B (Path): negative indices	Multiplication and Division with Indices
	Simplifying with Index Laws 2
Topics	**Skill Quests**
Index laws with negative-integer indices	Algebraic expressions with negative indices
	Evaluating expressions with negative index

1.6 Indices C (Path)

MA5-IND-P-02 describes and performs operations with surds and fractional indices (Path: Adv)	
Course Topics	**Activities**
Indices C (Path): surds & fractional indices	Simplifying Surds
	Adding and Subtracting Surds
	Multiplying Surds
	Expanding Surd Expressions
	Surd Form to Index Form
	Dividing Surds
	Expanding Binomial Surds
	Fractional Indices
Topics	**Skill Quests**
Describe surds	Understanding rational & irrational numbers
	Converting between recurring decimals & fractions
	Introducing surds
Solve problems using knowledge of surds	Understanding surd rules
	Simplifying surds
	Adding & subtracting surds
	Multiplying & dividing surds
	Expanding brackets with surds
	Rationalising the denominator
	Solving problems involving surds
Describe & use fractional indices	Converting surd to index form

1.7 Equations B (Path)

MA5-EQU-P-01 solves monic quadratic equations, linear inequalities and cubic equations of the form $ax^3 = k$ (Path: Adv)	
Course Topics	**Activities**
Equations B (Path): monic quadratic & cubic	Quadratic Equations 1
	Quadratic Equations 2
	Monic Quadratic Equations by Factorising
	Monic Quadratic Trinomial Equations
	Simple Quadratic Equations - How Many Solutions?
	Equations: Simple Quadratics
	Graphing Inequalities 3
Topics	**Skill Quests**
Solve monic quadratic equations	Solving monic quadratic equations
Solve cubic equations	Solving cubic equations
Solve linear inequalities	Understanding inequalities
	Solving 1 step linear inequalities
	Solving 2 step linear inequalities
	Solving 3 step linear equalities

1.8 Equations C (Path)

MA5-EQU-P-02 solves linear equations of more than 3 steps, monic and non-monic quadratic equations, and linear simultaneous equations (Path: Adv)	
Course Topics	**Activities**
Equations C (Path): algebraic fractions	Solving More Equations
	Solve Multi-Step Equations
	Equations: Variables, Both Sides
	Checking Quadratic Solutions
	Nature of Solutions of Quadratics
	Simultaneous Linear Equations
	Simultaneous Equations 1
	Simultaneous Equations 2
	Solve Systems by Graphing
Topics	**Skill Quests**
Linear equations with algebraic fraction	Solving linear equations with algebraic fractions
Solve quadratic equations	Solving non-monic quadratic equations
	Solving equations by completing the square
	Solving equations with quadratic formula
	Solving a variety of quadratic equations
	Identifying the number of distinct solutions
	Solving quadratic equation word problems
Solve simultaneous equations	Solving simultaneous equations algebraically
	Solving simultaneous equations graphically

2 Measurement and Space

2.1 Linear relationships C (Path)

MA5-LIN-P-01 describes and applies transformations, the midpoint, gradient/slope and distance formulas, and equations of lines to solve problems (Path: Adv)	
Course Topics	**Activities**
Linear relations C (Path): apply formulas	Midpoint by Formula
	Distance Between Two Points
	Gradient
	Equation from Point and Gradient
	Equation from Two Points
	Perpendicular and Parallel Lines
	Are they Perpendicular?
	Perpendicular Distance 1
	Perpendicular Distance 2
Topics	**Skill Quests**
Midpoint & gradient using the formula	Calculating midpoint with the formula
	Calculating gradient with the formula
Find distance using the formula	Calculate distance between 2 points with a formula

Find the equation of a straight line	Finding & using x and y-intercepts
	Finding the equation of a line
	Finding equation of parallel/perpendicular lines
Solve problems with coordinate geometry	Solving problems with coordinate geometry formulas
	Identifying line & rotational symmetry
	Describing transformations on the Cartesian plane

2.2 Non-linear relationships C (Path)

MA5-NLI-P-01 interprets and compares non-linear relationships and their transformations, both algebraically and graphically (Path: Adv)	
Course Topics	**Activities**
Non-linear relations C (Path)	Vertex of a Parabola
	Graphing Parabolas
	Graphing Exponentials
	Graphing Hyperbolas
	Graphing Circles
	Non Linear Graphs
	Identifying Graphs
Topics	**Skill Quests**
Graph parabolas & transformations	Graphing parabola & describing features
	Finding x- & y-intercepts of parabolas
	Determining the vertex & axis of symmetry
	Graphing parabolas
	Describing parabolas & their transformations
Graph exponentials & transformations	Graphing exponentials
	Describing exponentials & their transformations
Graph hyperbolas & transformations	Graphing hyperbolas
	Describing hyperbolas & their transformations
Graph circles & transformations	Graphing circles
	Describing circles & their transformations
Distinguish between different graphs	Distinguishing between different types of graphs
	Sketching different types of graphs

2.3 Polynomials (Path)

MA5-POL-P-01 defines, operates with and graphs polynomials and applies the factor and remainder theorems to solve problems (Path: Adv, Ext)	
Course Topics	**Activities**
Polynomials (Path)	Polynomial Long Division
	Polynomial Factor Theorem
Topics	**Skill Quests**
Define & operate with polynomials	Understanding polynomial terms
	Performing operations with polynomials
Divide polynomials	Dividing a polynomial by a linear polynomial
Apply the factor & remainder theorems	Solving problems using factor & remainder theorems
Graph polynomials	Identifying polynomials
	Graphing polynomials

2.4 Logarithms (Path)

MA5-LOG-P-01 establishes and applies the laws of logarithms to solve problems (Path: Adv)	
Course Topics	**Activities**
Logarithms (Path)	Log Laws
	Change of Base
	Log Base 'e'
	Equations with Logs
Topics	**Skill Quests**
Examine logarithms numerically	Defining & evaluating logarithms
Examine logarithms graphically	Log graphs & the relationship with exponentials
Establish & apply the laws of logarithms	Deducing log rule from multiplication of indices
	Deducing log rule from division of indices
	Deducing log rule from power rule of indices
	Applying log rules to simplify expressions
	Solving equations with logarithms
	Solving equations with exponentials

2.5 Functions and other graphs (Path)

MA5-FNC-P-01 uses function notation to describe and graph functions of one variable and graphs inequalities in one and 2 variables (Path: Adv)	
Course Topics	**Activities**
Functions & other graphs (Path)	Function Notation 1
	Function Notation 2
	Function Notation 3
	Domain and Range
Topics	**Skill Quests**
Define relations & functions	Defining relations & functions
Find the domain & range of a function	Describing domain & range of a function
Graph regions to linear inequalities	Graphing linear inequalities

2.6 Trigonometry C (Path)

MA5-TRG-P-01 applies Pythagoras' theorem and trigonometry to solve 3-dimensional problems and applies the sine, cosine and area rules to solve 2-dimensional problems, including bearings (Path: Stn, Adv)	
Course Topics	**Activities**
Trigonometry C (Path): 3D & non right-angled	3D Trigonometry
	Sine Rule: Sides & Acute Angles
	Sine Rule: Obtuse Angle
	Cosine Rule: Find Unknown Side
	Cosine Rule: Find Unknown Angle
	Area Rule 1

	Area Rule 2
	Area Problems
Topics	**Skill Quests**
Solve 3D right-angled triangle problems	Solving 3D problems with right-angled triangles
Apply sine, cosine & area rules	Using the sine rule to solve problems
	Using the cosine rule to solve problems
	Using the area rule to solve problems
	Solving problems with non-right-angled triangles

2.7 Trigonometry D (Path)

MA5-TRG-P-02 establishes and applies the properties of trigonometric functions and finds solutions to trigonometric equations (Path: Adv)	
Course Topics	**Activities**
Trigonometry D (Path): trig functions	Which Quadrant?
	Unit Circle Reductions
	Exact Trigonometric Ratios
	Sign of the Angle
	Trig Equations 1
	Trig Equations 2
	Trig Equations 3
Topics	**Skill Quests**
Use unit circle to define trig functions	Using the unit circle to define trig functions
	Representing sin, cos, tan functions graphically
	Apply relationships using unit circle/trig graphs
	Finding the angle of inclination & gradient
	Solving trig equations using exact answers

2.8 Area and surface area B (Path)

MA5-ARE-P-01 applies knowledge of the surface area of right pyramids and cones, spheres and composite solids to solve problems (Path: Stn, Adv)	
Course Topics	**Activities**
Area & surface area B: using Pythagoras	Surface Area: Square Pyramids
	Surface Area: Rectangular Pyramids
	Surface Area: Cones
	Surface Area: Spheres
	Surface Area: Rearrange Formula
	Field Diagrams
	Cone and Pyramid Dimensions
Topics	**Skill Quests**
Solve problems involving surface area	Surface area of pyramids
	Surface area of cones
	Surface area of spheres
	Finding dimensions, given the surface area
	Surface area of composite solids

2.9 Volume B (Path)

MA5-VOL-P-01 applies knowledge of the volume of right pyramids, cones and spheres to solve problems involving related composite solids (Path: Stn, Adv)	
Course Topics	**Activities**
Volume B (Path): pyramids, cones & spheres	Volume: Pyramids
	Volume: Cones
	Volume: Spheres
Topics	**Skill Quests**
Solve problems involving volumes	Volume of pyramids & cones
	Volume of spheres
	Volume of composite solids

2.10 Properties of geometrical figures B (Path)

MA5-GEO-P-01 establishes conditions for congruent triangles and similar triangles and solves problems relating to properties of similar figures and plane shapes (Path: Ext)	
Course Topics	**Activities**
Properties of geo figures B (Path): congruent	Congruent Triangles
	Similar Figures 1
	Similar Figures
	Similarity Proofs
	Similar Triangles
Topics	**Skill Quests**
Use conditions for congruent triangles	Identifying & explaining congruence
	Identifying congruent triangles
	Determining congruent triangles using tests
Use conditions for similar triangles	Determining similar triangles using 4 tests
	Solving area problems of similar shapes & solids
	Solving volume problems of similar shapes & solids
Solve problems with plane shapes	Applying interior & exterior sum of angles

2.11 Properties of geometrical figures C (Path)

MA5-GEO-P-02 constructs proofs involving congruent triangles and similar triangles and proves properties of plane shapes (Path: Ext)	
Course Topics	**Activities**
Properties of geo figures C (Path): proofs	Similar Areas and Volumes
	Plane Figure Theorems
Topics	**Skill Quests**
Construct formal proofs	Formal proofs for congruent & similar triangles

2.12 Circle geometry (Path)

MA5-CIR-P-01 applies deductive reasoning to prove circle theorems and solve related problems (Path: Ext)	
Course Topics	**Activities**
Circle geometry (Path)	Circle Terms
	Circle Theorems
	Tangents and Secants
Topics	**Skill Quests**
Apply angle & chord properties	Using circle terminology
	Proving & applying chord properties of circles
	Proving & applying angle properties of circles
	Proving & applying angle properties of semicircles
	Solving problems using circle properties
Apply tangent properties of circles	Proving & applying tangent properties of circles

2.13 Introduction to networks (Path)

MA5-NET-P-01 solves problems involving the characteristics of graphs/networks, planar graphs and Eulerian trails and circuits (Path: Stn)	
Course Topics	**Activities**
Introduction to networks (Path)	Networks Introduction
	Minimum Spanning Trees
Topics	**Skill Quests**
Teacher directed	

3 Statistics and Probability

3.1 Data analysis C (Path)

MA5-DAT-P-01 plans, conducts and reviews a statistical inquiry into a question of interest (Path: Stn, Adv)	
Course Topics	**Activities**
Data analysis C (Path): question of interest	Data Terms
	Data sampling
	Methods of Data Sampling
	Stem and Leaf Plots with Range
	Calculating Interquartile Range
	Box-and-Whisker Plots 1
	Box-and-Whisker Plots 2
	Understanding Box-and-Whisker Plots
Topics	**Skill Quests**
Examine reports in digital media	Analysing reports critically in digital media

3.2 Probability B (Path)

MA5-PRO-P-01 solves problems involving Venn diagrams, 2-way tables and conditional probability (Path: Adv)	
Course Topics	**Activities**
Probability B (Path): conditional probability	Venn Diagram 1
	Venn Diagrams
	Carroll Diagram
	Probability Tables
	Two-way Table Probability
	Fit the Conditions 1
	Probability - 'And' and 'Or'
	Conditional probability
Topics	**Skill Quests**
Use language of conditional probability	Understanding conditional probability
Mutually & non-mutually exclusive events	Describing mutually/non-mutually exclusive events
Solve problems involving Venn diagrams	Interpreting & constructing Venn diagrams
	Understanding set theory & Venn diagrams
	Using Venn diagrams for conditional probability
Solve problems involving 2-way tables	Constructing & interpreting 2-way tables
	Converting between Venn diagrams & 2-way tables
	Using 2-way tables to find conditional probability

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