

Australian Mathematics Content Map

Education Perfect Maths is an online learning resources with scaffolding smart lessons aligned to the Australian Curriculum. This table aligns the lessons provided by Education Perfect mapped to the Australian Curriculum.

Year 9 Australian Curriculum	
Number and Algebra	
Real numbers	Education Perfect Lessons
Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems (ACMNA208)	Introduction to Graphs Direct Proportion Applying Inverse Proportion Introduction to Inverse Proportion Analysing Graphs Constant Rates Variable Rates Rates of Change Analysing Rates of Change Review: Rates
Apply index laws to numerical expressions with integer indices (ACMNA209)	Integer Indices Fractional Indices Applying Index Laws Review: First Index Law Review: Second Index Law Review: Third Index Law Review: Fourth Index Law
Express numbers in scientific notation (ACMNA210)	Scientific Notation Using Scientific Notation
Money and financial mathematics	
Solve problems involving simple interest (ACMNA211)	Income Tax Interest Theory Calculating Simple Interest Simple Interest: Real World Applications Review: Profit and Loss Review: Discounts and Supply Chains
Patterns and algebra	
Extend and apply the index laws to variables, using positive integer indices and the zero index (ACMNA212)	Multiplying Powers Dividing Powers The Zero Index Powers as the Base of Another Power Multiplication as the Base of a Power

	Division as the Base of a Power Review: Simplifying Algebraic Expressions
Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate (ACMNA213)	Expanding and the Distributive Law Expanding Binomial Products Expanding Perfect Squares Expanding Differences of Two Squares Connecting Expanding and Factorising Identifying Algebraic Factors Identifying Complicated Algebraic Factors Factorising Factorisation Patterns Factorising Quadratic Expressions Review: Expanding Algebraic Expressions Review: Factorising Algebraic Expressions
Linear and non-linear relationships	
Find the distance between two points located on the Cartesian plane using a range of strategies, including graphing software (ACMNA214)	Distance and Pythagoras' Theorem Applications of Coordinate Geometry: Distance Review: Cartesian Planes
Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software (ACMNA294)	Line Segments on Cartesian Planes Gradient of a Line Segment Midpoint of a Line Segment Applications of Coordinate Geometry: Gradient Applications of Coordinate Geometry: Midpoint
Sketch linear graphs using the coordinates of two points and solve linear equations (ACMNA215)	Plotting Linear Graphs Drawing Linear Graphs Using the Gradient Graphing Using Technology - Casio Calculators Linear Patterns and Rules Determining Linear Rules Horizontal and Vertical Lines Review: Linear Graphs Review: Reading Graphs Review: Rearranging Linear Equations Review: Solving Simple Linear Equations
Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations (ACMNA296)	Parabolas Transforming Parabolas Circles Solving Non-Linear Equations
Measurement and Geometry	
Using units of measurement	
Calculate areas of composite shapes (ACMMG216)	Area of Composite Shapes Review: Area

Calculate the surface area and volume of cylinders and solve related problems (ACMMG217)	Surface Area of Cylinders Review: Area of Circles
Solve problems involving the surface area and volume of right prisms (ACMMG218)	Surface Area of Prisms Converting between Capacity and Volume Calculating Volume and Capacity Review: Volume Review: Converting Units of Capacity
Investigate very small and very large time scales and intervals (ACMMG219)	Time Scales
Geometric reasoning	
Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar (ACMMG220)	Angles and Triangles Angles and Quadrilaterals Angles and Congruence Introduction to Similarity Similarity Tests Similarity and Angles Similarity and Multiple Triangles Review: Congruence of Triangles Review: Congruence of Quadrilaterals
Solve problems using ratio and scale factors in similar figures (ACMMG221)	Introduction to Scaling Magnitude Magnitude as a Ratio Scaling on Cartesian Planes Review: Transformations
Pythagoras and trigonometry	
Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles (ACMMG222)	Parts of a Triangle and the Hypotenuse Pythagoras' Theorem Calculating Unknown Lengths Using Pythagoras' Theorem Calculating Unknown Lengths in Authentic Situations
Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles (ACMMG223)	
Apply trigonometry to solve right-angled triangle problems (ACMMG224)	Introduction to Trigonometry Calculating Unknown Sides Using Sine Calculating Unknown Sides Using Cosine Calculating Unknown Sides Using Tangent Inverse Trigonometric Functions
Statistics and Probability	

Chance	
List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events (ACMSP225)	Introduction to Two-Step Experiments Tree Diagrams Using Tree Diagrams Arrays Using Arrays Review: Introduction to Probability Review: Complementary Events Review: Describing Probabilities
Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' (ACMSP226)	Relative Frequencies Using Relative Frequencies Venn Diagrams Two-Way Tables Advanced Venn Diagrams and Two-Way Tables Review: Venn Diagrams Review: Two-Way Tables Review: Converting Between Venn Diagrams and Two-Way Tables
Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians (ACMSP227)	5. Reports of Surveys in Media
Data representation and interpretation	
Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources (ACMSP228)	Primary and Secondary Data Types of Data Review: Sampling
Construct back-to-back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal' (ACMSP282)	Shape and Mode Symmetry and Skew in Data Frequency Polygons Back-to-back Stem and Leaf Plots Review: Frequency Tables
Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread (ACMSP283)	Effect of Shape on Mean and Median Measures of Centre in Grouped Data Quartiles Box and Whisker Plots Comparing Data Sets Comparing Dot Plots Comparing Histograms Review: Measures of Centre and Spread