Key	same/refined	removed	new	moved

Note:
- the key applies to the content descriptions only
- v8.4 content descriptions may have been reordered to align with v9.0 content descriptions.

Version 8.4	Version 9.0
Achievement standard	**Achievement standard**
By the end of Year 8, students solve everyday problems involving rates, ratios and percentages. They describe index laws and apply them to whole numbers. They describe rational and irrational numbers. Students solve problems involving profit and loss. They make connections between expanding and factorising algebraic expressions. Students solve problems relating to the volume of prisms. They make sense of time duration in real applications. They identify conditions for the congruence of triangles and deduce the properties of quadrilaterals. Students model authentic situations with two-way tables and Venn diagrams. They choose appropriate language to describe events and experiments. They explain issues related to the collection of data and the effect of outliers on means and medians in that data. Students use efficient mental and written strategies to carry out the four operations with integers. They simplify a variety of algebraic expressions. They solve linear equations and graph linear relationships on the Cartesian plane. Students convert between units of measurement for area and volume. They perform calculations to determine perimeter and area of parallelograms, rhombuses and kites. They name the features of circles and calculate the areas and circumferences of circles. Students determine the probabilities of complementary events and calculate the sum of probabilities.	By the end of Year 8, students recognise irrational numbers and terminating or recurring decimals. They apply the exponent laws to calculations with numbers involving positive integer exponents. Students solve problems involving the 4 operations with integers and positive rational numbers. They use mathematical modelling to solve practical problems involving ratios, percentages and rates in measurement and financial contexts. Students apply algebraic properties to rearrange, expand and factorise linear expressions. They graph linear relations and solve linear equations with rational solutions and one-variable inequalities, graphically and algebraically. Students use mathematical modelling to solve problems using linear relations, interpreting and reviewing the model in context. They make and test conjectures involving linear relations using digital tools. Students use appropriate metric units when solving measurement problems involving the perimeter and area of composite shapes, and volume of right prisms. They use Pythagoras' theorem to solve measurement problems involving unknown lengths of right-angle triangles. Students use formulas to solve problems involving the area and circumference of circles. They solve problems of duration involving 12- and 24-hour cycles across multiple time zones. Students use 3 dimensions to locate and describe position. They identify conditions for congruency and similarity in shapes and create and test algorithms designed to test for congruency and similarity. Students apply the properties of quadrilaterals to solve problems. Students conduct statistical investigations and explain the implications of obtaining data through sampling. Students analyse and describe the distribution of data. They compare the variation in distributions of random samples of the same and different size from a given population with respect to shape, measures of central tendency and range. Students represent the possible combinations of 2 events with tables and diagrams, and determine related probabilities to solve practical problems. They conduct experiments and simulations using digital tools to determine related probabilities of compound events.

Strands	Content descriptions	Content descriptions	Strands
Number	investigate the concept of irrational numbers, including π ACMNA186	recognise irrational numbers in applied contexts, including square roots and π AC9M8N01	Number
	use index notation with numbers to establish the index laws with positive integral indices and the zero index ACMNA182	establish and apply the exponent laws with positive integer exponents and the zero-exponent, using exponent notation with numbers AC9M8N02	
	investigate terminating and recurring decimals ACMNA184	recognise terminating and recurring decimals, using digital tools as appropriate AC9M8N03	
	carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies ACMNA183	use the 4 operations with integers and with rational numbers, choosing and using efficient strategies and digital tools where appropriate AC9M8N04	
	solve problems involving the use of percentages, including percentage increases and decreases, with and without digital technologies ACMNA187	use mathematical modelling to solve practical problems involving rational numbers and percentages, including financial contexts; formulate problems, choosing efficient calculation strategies and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8N05	
	solve a range of problems involving rates and ratios, with and without digital technologies ACMNA188 **Moved to Measurement**		
	solve problems involving profit and loss, with and without digital technologies ACMNA189		
Algebra	extend and apply the distributive law to the expansion of algebraic expressions ACMNA190	create, expand, factorise, rearrange and simplify linear expressions, applying the associative, commutative, identity, distributive and inverse properties AC9M8A01	Algebra
	factorise algebraic expressions by identifying numerical factors ACMNA191		
	simplify algebraic expressions involving the four operations ACMNA192		
	plot linear relationships on the Cartesian plane with and without the use of digital technologies ACMNA193	graph linear relations on the Cartesian plane using digital tools where appropriate; solve linear equations and one-variable	

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	Version 8.4		Version 9.0	
	solve linear equations using algebraic and graphical techniques. Verify solutions by substitution ACMNA194		inequalities using graphical and algebraic techniques; verify solutions by substitution AC9M8A02 **Moved from Year 9 and Year 10**	
			use mathematical modelling to solve applied problems involving linear relations, including financial contexts; formulate problems with linear functions, choosing a representation; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8A03 **Moved from Year 10**	
			experiment with linear functions and relations using digital tools, making and testing conjectures and generalising emerging patterns AC9M8A04	
Measurement	find perimeters and areas of parallelograms, trapeziums, rhombuses and kites ACMMG196		solve problems involving the area and perimeter of irregular and composite shapes using appropriate units AC9M8M01 **Moved from Year 9**	Measurement
	choose appropriate units of measurement for area and volume and convert from one unit to another ACMMG195			
	choose appropriate units of measurement for area and volume and convert from one unit to another ACMMG195		solve problems involving the volume and capacity of right prisms using appropriate units AC9M8M02 **Moved from Year 6**	
	develop formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume ACMMG198 **Moved to Year 7**			
	investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving circumference and area ACMMG197 **Moved to Year 7**		solve problems involving the circumference and area of a circle using formulas and appropriate units AC9M8M03	
	solve problems involving duration, including using 12- and 24-hour time within a single time zone ACMMG199		solve problems involving duration, including using 12- and 24-hour time across multiple time zones AC9M8M04	
	solve a range of problems involving rates and ratios, with and without digital technologies ACMNA188 **Moved from Number**		recognise and use rates to solve problems involving the comparison of 2 related quantities of different units of measure AC9M8M05	
			use Pythagoras' theorem to solve problems involving the side lengths of right-angled triangles AC9M8M06 **Moved from Year 9**	
			use mathematical modelling to solve practical problems involving ratios and rates, including financial contexts; formulate problems; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model AC9M8M07	
Geometry	define congruence of plane shapes using transformations ACMMG200		identify the conditions for congruence and similarity of triangles and explain the conditions for other sets of common shapes to be congruent or similar, including those formed by transformations AC9M8SP01 **Moved from Year 9**	Space
	develop the conditions for congruence of triangles ACMMG201			
	establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning ACMMG20 **Moved to Year 7**		establish properties of quadrilaterals using congruent triangles and angle properties, and solve related problems explaining reasoning AC9M8SP02	
			describe the position and location of objects in 3 dimensions in different ways, including using a three-dimensional coordinate system with the use of dynamic geometric software and other digital tools AC9M8SP03	
			design, create and test algorithms involving a sequence of steps and decisions that identify congruency or similarity of shapes, and describe how the algorithm works AC9M8SP04	
Statistics	investigate techniques for collecting data, including census, sampling and observation ACMSP284		investigate techniques for data collection including census, sampling, experiment and observation, and explain the practicalities and implications of obtaining data through these techniques AC9M8ST01	Statistics
	explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes ACMSP206			
	explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes ACMSP206		analyse and report on the distribution of data from primary and secondary sources using random and non-random sampling techniques to select and study samples AC9M8ST02	
	explore the variation of means and proportions of random samples drawn from the same population ACMSP293		compare variations in distributions and proportions obtained from random samples of the same size drawn from a population and recognise the effect of sample size on this variation AC9M8ST03	

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	Version 8.4	Version 9.0	
Probability		plan and conduct statistical investigations involving samples of a population; use ethical and fair methods to make inferences about the population and report findings, acknowledging uncertainty AC9M8ST04	Probability
	investigate the effect of individual data values, including outliers, on the mean and median ACMSP207 **Moved to Year 7**		
	identify complementary events and use the sum of probabilities to solve problems ACMSP204	recognise that complementary events have a combined probability of one; use this relationship to calculate probabilities in applied contexts AC9M8P01	
	describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'. ACMSP205	determine all possible combinations for 2 events, using two-way tables, tree diagrams and Venn diagrams, and use these to determine probabilities of specific outcomes in practical situations AC9M8P02	
	represent events in two-way tables and Venn diagrams and solve related problems ACMSP292		
		conduct repeated chance experiments and simulations, using digital tools to determine probabilities for compound events, and describe results AC9M8P03	

Considerations for planning for the first year of implementation

In the initial year of implementing the Australian Curriculum: Mathematics v9.0, teachers need to consider the implications of content changes as they transition from v8.4.

The table below:

- identifies changes between v8.4 and v9.0 that may influence the sequence of students' learning
- outlines considerations for planning teaching and learning programs for the first year of implementation.

Year 7 content in v8.4	Year 8 content in v9.0	Considerations
investigate and calculate 'best buys', with and without digital technologies ACMNA174	use mathematical modelling to solve practical problems, involving rational numbers and percentages, including financial contexts; formulate problems, choosing representations and efficient calculation strategies, using digital tools as appropriate; interpret and communicate solutions in terms of the situation, justifying choices made about the representation AC9M7N09	In v9.0 financial contexts need to be provided for mathematical modelling. Students need to understand the language, processes, concepts and relationships relevant to that context. For example, finding percentage change requires an understanding of language and concepts such percentage increase, percentage decrease, mark-ups, discounts, value, new price, original price and GST.
develop formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume ACMMG198	solve problems involving the volume and capacity of right prisms using appropriate units AC9M8M02 **Moved from Year 7**	Developing and using formulas for volumes of rectangular and triangular prisms and prisms in general was content included in Year 7 v8.4. As this content has moved to Year 8 v9.0, teaching and learning programs should provide opportunities for students to revise and consolidate conceptual understanding.
No content description.	solve problems involving the circumference and area of a circle using formulas and appropriate units AC9M8M03	The following Year 8 v8.4 content description has been moved to Year 7 v9.0. Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving circumference and area ACMMG197 In the first year of implementation, students will not have previously engaged in the required prior knowledge of this concept. Consider including the v8.4 content in teaching and learning sequences.
No content description.	compare variations in distributions and proportions obtained from random samples of the same size drawn from a population and recognise the effect of sample size on this variation AC9M8ST03	The following Year 8 v8.4 content description has been moved to Year 7 v9.0. investigate the effect of individual data values, including outliers, on the mean and median ACMSP207 In the first year of implementation, students will not have engaged in the required prior knowledge of this concept. Consider including the v8.4 content in teaching and learning sequences.