

Australian Curriculum Version 9.0: Achievement standard aligned to content descriptions

This resource shows alignment between aspects of the achievement standard and relevant content descriptions for Year 10. A similar resource is available for other year levels.

The Australian Curriculum (AC) v9.0 code for each content description includes an element indicating the strand it is organised by, e.g. AC9M10N01 indicates Number strand.

Key to content description codes: Mathematics	
e.g. AC9M10N01 Australian Curriculum (AC) Version 9 (9) Mathematics (M) Year (10) Strand (N, A, M, SP, ST, P) Content description number (##)	Strands: <ul style="list-style-type: none"> N — Number A — Algebra M — Measurement SP — Space ST — Statistics P — Probability

Year 10 Australian Curriculum: Mathematics achievement standard

By the end of Year 10, students recognise the effect of approximations of real numbers in repeated calculations. They use mathematical modelling to solve problems involving growth and decay in financial and other applied situations, applying linear, quadratic and exponential functions as appropriate, and solve related equations, numerically and graphically. Students make and test conjectures involving functions and relations using digital tools. They solve problems involving simultaneous linear equations and linear inequalities in 2 variables graphically and justify solutions.

Students interpret and use logarithmic scales representing small or large quantities or change in applied contexts. They solve measurement problems involving surface area and volume of composite objects. Students apply Pythagoras' theorem and trigonometry to solve practical problems involving right-angled triangles. They identify the impact of measurement errors on the accuracy of results. Students use mathematical modelling to solve practical problems involving proportion and scaling, evaluating and modifying models, and reporting assumptions, methods and findings. They use deductive reasoning, theorems and algorithms to solve spatial problems. Students interpret networks used to represent practical situations and describe connectedness.

They plan and conduct statistical investigations involving bivariate data. Students represent the distribution of data involving 2 variables, using tables and scatter plots, and comment on possible association. They analyse inferences and conclusions in the media, noting potential sources of bias. Students compare the distribution of continuous numerical data using various displays, and discuss distributions in terms of centre, spread, shape and outliers. They apply conditional probability to solve problems involving compound events. Students design and conduct simulations involving conditional probability, using digital tools.

Achievement standard aspect	Relevant content description/s	AC v9.0 code
By the end of Year 10	Students learn to:	
Students recognise the effect of approximations of real numbers in repeated calculations.	<ul style="list-style-type: none"> recognise the effect of using approximations of real numbers in repeated calculations and compare the results when using exact representations 	AC9M10N01
	<ul style="list-style-type: none"> solve practical problems applying Pythagoras' theorem and trigonometry of right-angled triangles, including problems involving direction and angles of elevation and depression 	AC9M10M03
They use mathematical modelling to solve problems involving growth and decay in financial and other applied situations, applying linear, quadratic and exponential functions as appropriate, and solve related equations, numerically and graphically.	<ul style="list-style-type: none"> expand, factorise and simplify expressions and solve equations algebraically, applying exponent laws involving products, quotients and powers of variables, and the distributive property 	AC9M10A01
	<ul style="list-style-type: none"> recognise the connection between algebraic and graphical representations of exponential relations and solve related exponential equations, using digital tools where appropriate 	AC9M10A03
	<ul style="list-style-type: none"> use mathematical modelling to solve applied problems involving growth and decay, including financial contexts; formulate problems, choosing to apply linear, quadratic or exponential models; interpret solutions in terms of the situation; evaluate and modify models as necessary and report assumptions, methods and findings 	AC9M10A04
They make and test conjectures involving functions and relations using digital tools.	<ul style="list-style-type: none"> experiment with functions and relations using digital tools, making and testing conjectures and generalising emerging patterns 	AC9M10A05
They solve problems involving simultaneous linear equations and linear inequalities in 2 variables graphically and justify solutions.	<ul style="list-style-type: none"> solve linear inequalities and simultaneous linear equations in 2 variables; interpret solutions graphically and communicate solutions in terms of the situation 	AC9M10A02
They interpret and use logarithmic scales representing small or large quantities or change in applied contexts.	<ul style="list-style-type: none"> interpret and use logarithmic scales in applied contexts involving small and large quantities and change 	AC9M10M02
They solve measurement problems involving surface area and volume of composite objects.	<ul style="list-style-type: none"> solve problems involving the surface area and volume of composite objects using appropriate units 	AC9M10M01
They apply Pythagoras' theorem and trigonometry to solve practical problems involving right-angled triangles.	<ul style="list-style-type: none"> solve practical problems applying Pythagoras' theorem and trigonometry of right-angled triangles, including problems involving direction and angles of elevation and depression 	AC9M10M03
They identify the impact of measurement errors on the accuracy of results.	<ul style="list-style-type: none"> identify the impact of measurement errors on the accuracy of results in practical contexts 	AC9M10M04

Achievement standard aspect	Relevant content description/s	AC v9.0 code
They use mathematical modelling to solve practical problems involving proportion and scaling, evaluating and modifying models, and reporting assumptions, methods and findings.	<ul style="list-style-type: none"> use mathematical modelling to solve practical problems involving proportion and scaling of objects; formulate problems and interpret solutions in terms of the situation; evaluate and modify models as necessary, and report assumptions, methods and findings 	AC9M10M05
They use deductive reasoning, theorems and algorithms to solve spatial problems.	<ul style="list-style-type: none"> apply deductive reasoning to proofs involving shapes in the plane and use theorems to solve spatial problems 	AC9M10SP01
	<ul style="list-style-type: none"> design, test and refine solutions to spatial problems using algorithms and digital tools; communicate and justify solutions 	AC9M10SP03
They interpret networks used to represent practical situations and describe connectedness.	<ul style="list-style-type: none"> interpret networks and network diagrams used to represent relationships in practical situations and describe connectedness 	AC9M10SP02
They plan and conduct statistical investigations involving bivariate data.	<ul style="list-style-type: none"> construct scatterplots and comment on the association between the 2 numerical variables in terms of strength, direction and linearity 	AC9M10ST03
	<ul style="list-style-type: none"> construct two-way tables and discuss possible relationship between categorical variables 	AC9M10ST04
	<ul style="list-style-type: none"> plan and conduct statistical investigations of situations that involve bivariate data; evaluate and report findings with consideration of limitations of any inferences 	AC9M10ST05
They represent the distribution of data involving 2 variables, using tables and scatter plots, and comment on possible association.	<ul style="list-style-type: none"> construct scatterplots and comment on the association between the 2 numerical variables in terms of strength, direction and linearity 	AC9M10ST03
	<ul style="list-style-type: none"> construct two-way tables and discuss possible relationship between categorical variables 	AC9M10ST04
They analyse inferences and conclusions in the media, noting potential sources of bias.	<ul style="list-style-type: none"> analyse claims, inferences and conclusions of statistical reports in the media, including ethical considerations and identification of potential sources of bias 	AC9M10ST01
They compare the distribution of continuous numerical data using various displays, and discuss distributions in terms of centre, spread, shape and outliers.	<ul style="list-style-type: none"> compare data distributions for continuous numerical variables using appropriate data displays including boxplots; discuss the shapes of these distributions in terms of centre, spread, shape and outliers in the context of the data 	AC9M10ST02
	<ul style="list-style-type: none"> construct scatterplots and comment on the association between the 2 numerical variables in terms of strength, direction and linearity 	AC9M10ST03
They apply conditional probability to solve problems involving compound events.	<ul style="list-style-type: none"> use the language of “if ... then”, “given”, “of”, “knowing that” to describe and interpret situations involving conditional probability 	AC9M10P01
	<ul style="list-style-type: none"> design and conduct repeated chance experiments and simulations using digital tools to model conditional probability and interpret results 	AC9M10P02
They design and conduct simulations involving conditional probability, using digital tools.	<ul style="list-style-type: none"> use the language of “if ... then”, “given”, “of”, “knowing that” to describe and interpret situations involving conditional probability 	AC9M10P01
	<ul style="list-style-type: none"> design and conduct repeated chance experiments and simulations using digital tools to model conditional probability and interpret results. 	AC9M10P02

More information

If you would like more information, please visit the QCAA website www.qcaa.qld.edu.au. Alternatively, email the K–10 Curriculum and Assessment branch at australiancurriculum@qcaa.qld.edu.au.



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