AC: M Review Update

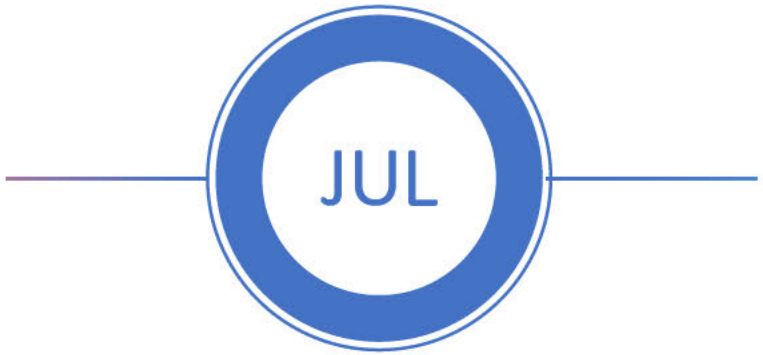
22/09/2021

Timing

of the review

s 22

s 22



29 April – 8 July

Public consultation on all proposed revisions will occur **from 29 April-8 July 2021.**

s 22

13 pages deleted under s 22

Content Descriptions

Consultation Version
quantify larger sets of objects, to at least 100, by partitioning collections into groups to facilitate more efficient counting. Continue the count, using knowledge place value and skip-counting, recognising that the last number said in the count represents the total quantity of objects, (AC9M1N03)
explore the use of brackets and order of operations to write number sentences. Construct equivalent number sentences involving brackets and combinations of the four operations and use the properties of numbers and operations to determine unknown values (AC9M6A03)
recognise the relationships between families of fractions (halves, quarters and eighths; fifths and tenths; thirds, sixths and twelfths) including equivalence. Use different representations (including fraction notation) to designate parts of a whole (AC9M4N05)
determine equivalent fraction, decimal and percentage representations of rational numbers. Locate and represent positive and negative fractions, decimals and mixed numbers on a number line (AC9M7N05)
recognise that complementary events have a combined probability of 1 and that for a single event A, Pr(A) + Pr(notA) = 1. Use these relationships to calculate probabilities related to practical problems (AC9M8P01)

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Content

reduce complexity and length

Mathematics - Examples

YEAR 3

Consultation version content description

represent, read, write, rename and order natural numbers to at least 10 000 using naming and writing conventions for larger numbers and relate these representations to place value in the base 10 number system

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Achievement standards

By the end of Year 4, students use their understanding of the structure of place value to efficiently multiply natural numbers by multiples of 10, and to represent tenths and hundredths in decimal form. They model situations, including financial contexts, and use addition and multiplication facts to add and subtract four-digit numbers and multiply and divide numbers efficiently. Students develop and use rounding and estimation strategies to reason and determine whether results are reasonable. They identify patterns in the multiplication facts and use their knowledge of these patterns in efficient strategies for mental calculations. Students solve problems using the properties of odd and even numbers. They locate common fractions on a number line and use fraction notation and other representations to demonstrate equivalence within families of fractions. Students identify and explain emerging patterns in sequences involving multiples and generated by algorithms using computational approaches and digital tools. They use the properties of operations and the structure of numbers to find unknown values in equivalent number sentences involving addition and subtraction.

Students use common scaled instruments to measure length, mass, capacity and temperature, using units that are appropriate for purpose. They measure and approximate the perimeter of shapes and enclosed boundaries and use square units to measure and approximate area. Students convert between units of time when solving problems involving duration. They compare angles relative to a right or straight angle and use formal angle names to communicate their results. Students apply spatial reasoning to model more complex shapes and objects with simpler ones. They create, use and interpret grid reference maps as two-dimensional representations of objects and spaces. Students identify rotational symmetry in plane shapes and create symmetrical patterns.

They use surveys and other means to generate categorical data in statistical investigations and communicate their findings in the context of the data. Students create displays, including column graphs and many-to-one pictographs, to represent and show the spread and variability of a data set. They assess the suitability of displays for representing data and discuss the shape of data distributions and the variation in data. Students use experience and the results of experiments to order the likelihood of the outcomes of chance events and identify whether events are independent or dependent.

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5 pages deleted under s 22

Multiplication facts (Times tables) s 22

s 22

YEAR 3

Original V8.4 content description

Recall multiplication facts of two, three, five and ten and related division facts (ACMNA05)

YEAR 3

Consultation version content description

describe, follow and create algorithms involving a sequence of steps and decisions to investigate numbers including odd and even numbers and multiples of 2, 3, 5 and 10 using computational thinking to recognise, describe and explain emerging patterns (AC9M3A04)

s 22

Consultation version - Achievement standard

They create and use algorithms to investigate the properties of odd and even numbers and to identify patterns and develop facts for single-digit multiplication of two, three, five and ten.

s 22

Content

addition, subtraction, multiplication and division facts

Mathematics s 22

Year 3			Year 4			Year 5	
Original CD V8.1	**Consultation version**	s 22	**Original CD V8.1**	**Consultation version**	s 22	s 22	s 22
recall addition facts for single digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)	recognise and explain patterns in basic addition facts up to 10 + 10 and related subtraction facts. Extend apply these patterns to develop efficient mental strategies for computation with larger numbers						
s 22	No explicit content description		s 22	recognise, recall and explain patterns in basic multiplication facts up to 10 x 10 and related division facts. Extend and apply these patterns to develop increasingly efficient mental strategies for computation with larger numbers			

Content

solving simple linear equations

Mathematics - Examples

YEAR 7

Current content description V8.4

Solve simple linear equations (ACMNA179)

Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point (ACMNA178)

YEAR 7

Consultation content descriptions

generate a table of values using the rule of a simple function. Develop tables to represent and describe relationships and plot these relationships on the Cartesian plane (AC9M7A04)

s 22

3 pages deleted under s 22

Year Levels | Strands | General Capabilities | Cross Curriculum Priorities | Additional Information

Please select at least one year level to view the content

- [ ] Select All
- [ ] Foundation Year
- [ ] Year 1
- [ ] Year 2
- [ ] Year 3
- [ ] Year 4
- [ ] Year 5
- [ ] Year 6
- [ ] Year 7
- [ ] Year 8
- [ ] Year 9
- [ ] Year 10
- [x] Year 10A

Level Description | Content Descriptions | Achievement Standard | Work Samples

Expand all

Year 10A

Year 10A Level Description

The 10A content descriptions are optional and are intended for students who require additional content to enrich and extend their mathematical study whilst completing the common Year 10 curriculum. It is not anticipated that all students will attempt the 10A content, but doing so would be advantageous for those intending to pursue Mathematical Methods (Course C) or Specialist Mathematics (Course D) in the senior secondary years. A selection of topics from the 10A curriculum can be completed according to the needs and interests of students.

Year 10A Content Descriptions

Number and Algebra

Measurement and Geometry

Statistics and Probability

Year 10A Achievement Standards

Achievement standard

There are no achievement standards for Year 10A in the Australian Curriculum: Mathematics. Please refer to the Year 10 Achievement Standards.

Pathways to senior secondary

acara AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY

Australian CURRICULUM Review

Year 10

Optional content that will support pathways to senior secondary mathematics (Mathematical Methods and Specialist Mathematics)

In Year 10, students will consider possible pathways to senior secondary mathematics study. Preparation for subsequent study of Units 1 and 2 of Mathematical Methods and Specialist Mathematics can be strengthened by further exploring some aspects of mathematics content in Year 10 as a basis for building understanding that underpins formal treatment in Mathematical Methods and/or Specialist Mathematics subjects in senior secondary.

Suggestions for this content are provided below. Illustrative examples provide some suggestions of what might be appropriate for students to explore within the broad content showing links to relevant Year 10 content descriptions. Teachers may choose to draw on these suggestions to support students who may require additional content to enrich and extend their mathematical study whilst completing the Year 10 curriculum in preparation for senior secondary mathematics.

Strand	Suggested content	Illustrative examples	Connected Year 10 content descriptions	Rationale for inclusion
Number	operations on numbers involving surds and fractional exponents	explaining that *n*th root of *a*, is the same as the $\frac{1}{n}$ exponent i.e $\sqrt[n]{a} = a^{\frac{1}{n}}$	expand and factorise expressions and apply exponent laws involving products, quotients and powers of variables. Apply to solve equations algebraically (AC9M10A02)	Surds and fractional exponents are representations used in both Methods and Specialist. Surd form provides exact answers when solving quadratic equations with irrational roots and in some measurement contexts in senior secondary mathematics. Surds provide exact values for certain arguments of circular (trigonometric) functions Fractional exponents arise in calculus where power functions with rational exponents are used in modelling contexts or in composition with other functions
		simplifying expressions such as $\sqrt{96} = 96^{\frac{1}{2}}$, $(\sqrt{5})^2 = (5^{\frac{1}{2}})^2 = 5^1 = 5$, $(\sqrt[3]{8})^2 = (8)^{\frac{2}{3}} = \sqrt[3]{8^2}$	recognise the connection between algebraic and graphical representations of exponential relations and solve simple related exponential equations using digital tools as appropriate (AC9M10A05) use formulas involving exponents and real numbers to model practical problems (including financial contexts) involving growth and decay and solve using digital tools as appropriate (AC9M10A01)	