

Title	Use number to solve problems		
Level	1	Credits	4

Purpose	This is a unit standard to assess aspects of numeracy. People credited with this unit standard are able to use number to solve problems. They will be able to add, subtract, multiply, and divide numbers, using their knowledge of fractions, percentages, decimals, integers, place value, number facts, and number sequencing. They will also be able to establish the appropriateness of the solution to the problem.
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Classification	Core Generic > Work and Study Skills
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Available grade	Achieved
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Explanatory notes

- 1 For the purposes of this unit standard, *numeracy* is defined as: being competent, confident, and able to judge in everyday contexts whether to use mathematics in a particular situation and if so, what mathematics to use, how to use it, what degree of accuracy is appropriate, and what the answer means in relation to the context. Numeracy knowledge and skills are essential for mathematics in everyday family and financial matters, learning, work and community tasks, social and leisure activities.

Numeracy standards are not the same as mathematics standards.

This unit standard is one of three unit standards for numeracy. The other two are:

- Unit 26627, *Use measurement to solve problems*
- Unit 26626, *Interpret statistical information for a purpose*.

- 2 Evidence must be gathered using either naturally occurring evidence from real contexts (refer below to explanatory note 3), and/or the NZQA digital tool (refer below to explanatory note 4).

Evidence must align with koru/step 5 of the *Make sense of number to solve problems* strand of the *Learning Progressions for Adult Numeracy*, available at <http://www.literacyandnumeracyforadults.com/>.

Items in the NZQA digital tool have been pre-moderated to ensure this alignment.

Calculators, computers or other appropriate technology are permitted for assessment against this unit standard. The candidate must still ascertain whether or not their solution is appropriate to the problem. The assessor must be satisfied that the naturally occurring evidence can be attributed to the candidate.

- 3 *Naturally occurring evidence* must be derived from activities within a learning programme and/or from a candidate's actual work performance and/or everyday life. Naturally occurring evidence must not be gathered from one-off assessment events designed specifically for this purpose. It is important the candidate is made aware that evidence of competence may be gathered while undertaking their study or work and that this does not create undue stress for them. Naturally occurring evidence may take the form of a portfolio where the evidence has been verified. A verifier's checklist is acceptable if accompanied by evidence that includes examples from the candidate's performance.

Real contexts are part of the candidate's everyday life and may include their classroom, their workplace, and other contexts.

Problems must:

- be in a real context for the candidate, (refer definition above)
- require skills at or above koru/step 5 of the *Make sense of number to solve problems* strand of the *Learning Progressions for Adult Numeracy*, available at <http://www.literacyandnumeracyforadults.com/>.

Where more than one calculation is required to solve a problem, each calculation could contribute evidence for this unit standard.

Evidence gathered from:

- a candidate's classroom may be sourced from different subjects or courses, or from different topics or aspects of the same course
- a candidate's workplace may be sourced from an employment focus (i.e. relating to employment documentation and conditions) or from a job-performance focus (i.e. regular work tasks)
- other contexts may be sourced from a candidate's involvement with family, sport, leisure, or community.

The assessor must be satisfied that the candidate has demonstrated an ongoing transferable competency against the unit standard as a whole, over a period of at least one month. Competence can be demonstrated orally, visually, or in a written form.

- 4 The *NZQA digital tool* is an online computer adaptive tool. The item bank for the tool has been psychometrically benchmarked at around Step 5 of the TEC Learning Progressions for Adult Numeracy and against this unit standard. The tool is designed to ensure that sufficient evidence is gathered to meet all the requirements of the standard.

While personal calculators are allowed, for questions that require the use of a calculator, students may use the on-screen calculator that will be available during the assessment.

- 5 Definitions

A *problem* is a real world question that can be solved using numeracy skills, where the pathway to the solution is not given.

Effective strategies means that the processes used to solve problems result in a reasonable solution in a reasonable time-frame.

Outcomes and evidence requirements

Outcome 1

Use number to solve problems.

Evidence requirements

1.1 Effective strategies are selected and used to solve problems.

Range across at least three separate activities: addition, subtraction, multiplication and division must be demonstrated at least three times each; integers, percentages, decimals, and fractions (of no greater complexity than: halves, thirds, quarters, fifths, tenths) must be demonstrated at least once each.

1.2 Appropriateness of the solution to the problem is established.

Planned review date	31 December 2021
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 August 2010	31 December 2014
Revision	2	15 January 2014	31 December 2019
Rollover	3	21 May 2015	31 December 2019
Review	4	18 May 2017	N/A

Consent and Moderation Requirements (CMR) reference	0113
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing

to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact NZQA National Qualifications Services nqs@nzqa.govt.nz if you wish to suggest changes to the content of this unit standard.