

40295**Problem-solve using calculations in a construction environment**

Kaupae Level	3
Whiwhinga Credit	3
Whāinga Purpose	<p>This skill standard recognises the skills to use number, spatial, and measurement calculations to solve familiar construction problems.</p> <p>This skill standard contributes to qualifications designed for the construction environment.</p>

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Problem-solve using calculations in a construction environment.	a. Methods are selected that will result in the problem being solved.
	b. Problems are solved to provide answers that are within acceptable tolerances relevant to the construction context and the specific problem.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria*Assessment specifications:*

Candidates must be able to consistently solve familiar problems involving number, spatial, and measurement calculations relevant to a construction environment.

Familiar problems are those frequently encountered in a specific construction trade that require application of at least two steps (processes) to solve. For example, quantity of coating required is calculating the surface area first then dividing by the spreading rate.

Evidence must include material quantification for specific construction materials.

Acceptable tolerances refer to rounding answers appropriate to industry best practice.

A *construction environment* is any environment involved in the modification, construction or maintenance of buildings, structures, or infrastructure assets.

Technology, including phones, apps, and calculators, may be used.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content**Mathematical methods**

- Timings and time management.
- Spatial geometry.
- Angles, measuring for square, and principles of triangles.
- Linear measurements, centres and spacings.
- Surface area, volume, and ratios.
- Calculating and converting percentages, fractions, and decimals.

Applying mathematical processes

- Optimal solutions.
- Appropriate rounding.
- Consecutive measurements and calculations.
- Conversions of measurements and calculation.
- Identification of variable information.
- Material quantification.
- Preparation of cutting lists.
- Mathematical problems common to a construction trade.
- Use of technology for common calculations in construction.

Rauemi | Resources

Programme Guidance available from qualifications@waihangaararau.nz.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Waihanga Ara Rau Construction and Infrastructure Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Planning and Construction > Construction Trades > Core Construction
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0048

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	28 November 2024	N/A
Kōrero whakakapinga Replacement information	This skill standard and skill standard 40294 replaced unit standard 24378.		
Rā arotake Planned review date	31 December 2029		

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihangaararau.nz to suggest changes to the content of this skill standard.