



Australian Government

**MEM12026 Perform advanced trade
calculations in a manufacturing,
engineering or related environment**

Release: 1

MEM12026 Perform advanced trade calculations in a manufacturing, engineering or related environment

Modification History

Release 1. New unit

Application

This unit of competency defines the skills and knowledge required to apply advanced mathematics to appropriate engineering post-trade situations within the individual's area of work.

It applies to the use of trigonometry, the sine and cosine rules, work-related formulae, geometric principles relevant to the workplace and the calculation of areas and volumes of common engineering shapes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: B

Unit Weight: 4

Pre-requisite Unit

MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Measurement

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.3 Identify job requirements from specifications, drawings, job sheets or work instructions
	1.4 Establish required calculation outcomes from job instructions
2 Determine required calculation method	2.1 Determine required calculation method to suit the application, including selection of relevant formulae
	2.2 Estimate expected results, including rounding off, as appropriate
3 Apply calculation method	3.1 Apply calculation method to obtain accurate answer
	3.2 Check answer against estimation

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Calculations are performed using one (1) or more of the following:

- pen and paper
- a calculator
- tables
- tablets
- computers

Calculations include

- angles

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establishing solutions associated with one (1) or more of the following:

- lengths
- areas
- perimeters
- volumes

Calculation methods include the following:

- trigonometry:
 - basic functions
 - sine rule
 - cosine rule
- Pythagoras Theorem
- geometry

Unit Mapping Information

Release 1. No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>