

Title	Draw and describe graphs involving two variables		
Level	1	Credits	4

Purpose	People credited with this unit standard are able to: draw graphs from instructions given; describe features of graphs; write equations to describe graphs. This unit standard is based on objectives from Level 6 of <i>Mathematics in the New Zealand Curriculum</i> or <i>Tauaki Marautanga Pangarau</i> .
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Classification	Mathematics > Algebra
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Available grade	Achieved
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Explanatory notes

1 Learning Programme

This unit standard can be used to assess outcomes of a learning programme based on achievement objectives from *Mathematics in the New Zealand Curriculum* (Learning Media, Ministry of Education, 1992):

Algebra (Exploring patterns and relationships), Level 6, page 154

- form and interpret a graph;
- graph linear, quadratic, and exponential functions, and relations of the form $x^2 + y^2 = r^2$ and $xy = c$;

Measurement (Developing concepts of rate and change), Level 6, page 78

- explain the relationship between the gradient of a graph and the rate of change;
- interpret and use information about rates presented in a variety of ways, e.g. graphically or in tables;

or on *Tauaki Marautanga Pangarau*, (Learning Media, Ministry of Education, 1994), Taurangi, Taumata 6.

The skills of this unit standard are some of those that could satisfy requirements for Unit 5233, *Use mathematical processes and skills in a variety of contexts*.

2 Assessment Note

For outcome 1, the standard **must** be met in at least three from the following list: linear; quadratic; exponential functions; relations of the type $x^2 + y^2 = r^2$; relations of the type $xy = c$.

For outcome 2, features could include: symmetry; intercepts; comparisons of gradients; solution of equations; features common to families of graphs; special features related to data.

For outcome 3, standards **must** be met in at least two from the following list: straight lines; circles centred at the origin; parabolas.

Graphing calculators and computer packages could be used in achievement of credit for this unit standard.

Outcomes and evidence requirements

Outcome 1

Draw graphs from instructions given.

Evidence requirements

1.1 Graphs are consistent with instructions.

Outcome 2

Describe features of graphs.

Evidence requirements

2.1 The description of the features is consistent with the graph.

Outcome 3

Write equations to describe graphs.

Evidence requirements

3.1 Equation is consistent with the graph.

Replacement information	This unit standard has been replaced by AS91028 and AS91029.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	3 August 1995	31 December 2013
Revision	2	26 November 1996	31 December 2013
Revision	3	1 November 1999	31 December 2013
Review	4	9 December 2010	31 December 2013
Rollover	5	11 April 2011	31 December 2013

Accreditation and Moderation Action Plan (AMAP) reference	0071
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This AMAP 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, or an inter-institutional body with delegated authority for quality assurance, 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.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP 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.

This unit standard is expiring