
ALGEBRA
Draw and describe graphs involving two variables

level:	1
credit:	4
planned review date:	November 2003
sub-field:	Mathematics
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> .
entry information:	Open.
accreditation option:	Evaluation of documentation by NZQA.
moderation option:	A centrally established and directed national moderation system has been set up by NZQA on behalf of the Science and Technology National Standards Body - Mathematics Advisory Group (General Education).

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special 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 element 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 $xy = c$.

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

For element 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.

Elements and Performance Criteria

element 1

Draw graphs from instructions given.

performance criteria

1.1 Graphs are consistent with instructions.

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element 2

Describe features of graphs.

performance criteria

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

element 3

Write equations to describe graphs.

performance criteria

3.1 Equation is consistent with the graph.

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Comments to:

Science and Technology National Standards Body
- Mathematics Advisory Group (General Education)
Unit Standard Revision
PO Box 160
WELLINGTON

by November 2003.

Please Note: Providers must be accredited by the Qualifications Authority before they can offer programmes of education and training assessed against unit standards.

Accredited providers assessing against unit standards must engage with the moderation system that applies to those unit standards. [Please refer to relevant Plan ref: 0071]