

Achievement Standard

Subject Reference Statistics and Modelling 3.2

Title Calculate confidence intervals for population parameters

Level 3 **Credits** 3 **Assessment** External

Subfield Statistics and Probability

Domain Statistics

Registration date 9 November 2005

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This achievement standard involves calculating confidence intervals for population parameters from large samples.

	Achievement Criteria	Explanatory Notes
Achievement	<ul style="list-style-type: none"> Calculate confidence intervals for population parameters. 	<ul style="list-style-type: none"> Population parameters for which confidence intervals are calculated will be selected from: <ul style="list-style-type: none"> mean proportion difference between two means.
Achievement with Merit	<ul style="list-style-type: none"> Demonstrate an understanding of confidence intervals. 	<ul style="list-style-type: none"> This will include some of: <ul style="list-style-type: none"> interpreting confidence intervals justifying or refuting claims about a population parameter calculating the sample size required to meet a pre-specified precision estimating population totals.
Achievement with Excellence	<ul style="list-style-type: none"> Demonstrate an understanding of the theory behind confidence intervals. 	<ul style="list-style-type: none"> The understanding may involve: <ul style="list-style-type: none"> effect of changing parameters on the precision or standard error applications of the Central Limit Theorem, <ul style="list-style-type: none"> i distribution of sample means ii distribution of sample totals iii use of probability including normal distribution.

General Explanatory Notes

- 1 This achievement standard is derived from *Mathematics in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1992:
 - achievement objective pp. 204, 206
 - suggested learning experiences pp. 205, 207
 - sample assessment activities pp. 208–209
 - mathematical processes pp. 23–29.
 - 2 The use of appropriate technology is expected.
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Quality Assurance

- 1 Providers and Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0226