

Achievement Standard

Subject Reference	Mathematics and Statistics 2.9		
Title	Use statistical methods to make an inference		
Level	2	Credits	4
		Assessment	Internal
Subfield	Statistics and Probability		
Domain	Statistics		
Status	Registered	Status date	17 November 2011
Planned review date	31 December 2019	Date version published	5 February 2015

This achievement standard involves using statistical methods to make an inference.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Use statistical methods to make an inference. 	<ul style="list-style-type: none"> Use statistical methods to make an inference, with justification. 	<ul style="list-style-type: none"> Use statistical methods to make an inference, with statistical insight.

Explanatory Notes

- This achievement standard is derived from Level 7 of *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the achievement objectives
 - carry out investigations of phenomena, using the statistical enquiry cycle:
 - using existing data sets
 - evaluating the choice of sampling and data collection methods used
 - using relevant contextual knowledge, exploratory data analysis, and statistical inference
 - make inferences from surveys:
 - using sample statistics to make point estimates of population parameters
 - recognising the effect of sample size on the variability of an estimate
 in the Statistics strand of the Mathematics and Statistics Learning Area. It is also related to the material in the *Teaching and Learning Guide for Mathematics and Statistics*, Ministry of Education, at <http://seniorsecondary.tki.org.nz>.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* achievement objectives to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

- 2 *Use statistical methods to make an inference* involves showing evidence of using each component of the statistical enquiry cycle to make an inference.

Use statistical methods to make an inference, with justification involves linking components of the statistical enquiry cycle to the context, and/or to the populations, and referring to evidence such as sample statistics, data values, trends, or features of visual displays in support of statements made.

Use statistical methods to make an inference, with statistical insight involves integrating statistical and contextual knowledge throughout the statistical enquiry cycle which may involve reflecting on the process, or considering other explanations.

- 3 Using the statistical enquiry cycle to make an inference involves:
- posing an appropriate investigative comparison question from a given set of population data
 - selecting random samples
 - selecting and using appropriate displays and measures
 - discussing sample distributions
 - discussing sampling variability, including the variability of estimates
 - making an inference
 - communicating findings in a conclusion.

- 4 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.

Replacement Information

This achievement standard replaced AS90288 and unit standard 5247.

Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233