

Achievement Standard

Subject Reference Statistics and Modelling 3.1

Title Determine the trend for time series data

Level 3 **Credits** 3 **Assessment** Internal

Subfield Statistics and Probability

Domain Statistics

Registration date 9 November 2005 **Date version published** 9 November 2005

This achievement standard involves determining the trend for time series data.

	Achievement Criteria	Explanatory Notes
Achievement	<ul style="list-style-type: none"> Determine the trend for time series data. 	<ul style="list-style-type: none"> This will include: <ul style="list-style-type: none"> graphing smoothing with moving averages describing the trend from the smoothed data, in context, by making a quantitative statement relating to a factor such as the gradient of the trend line.
Achievement with Merit	<ul style="list-style-type: none"> Analyse time series data to make a forecast. 	<ul style="list-style-type: none"> Forecast will be based on: <ul style="list-style-type: none"> estimates of the trend for the smoothed data estimates of seasonal effects. Analysis of cyclic effects is not expected.
Achievement with Excellence	<ul style="list-style-type: none"> Report on the validity of the analysis. 	<ul style="list-style-type: none"> The report will include justified comments on some of the following: <ul style="list-style-type: none"> relevance and usefulness of forecast features of the time series data appropriateness of the model improvements to the model limitations of the analysis seasonally adjusted data comparison with related time series data development and interpretation of an index number series.

General Explanatory Notes

- 1 This achievement standard is derived from *Mathematics in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1992, and *Mathematics in the New Zealand Curriculum, Addendum to Level 8*, Learning Media, Ministry of Education, 1995:
 - achievement objective p. 198, addendum p. 9
 - suggested learning experiences pp. 199, addendum pp. 9–10
 - sample assessment activities p. 200, addendum pp. 10–11
 - mathematical processes pp. 23–29.
 - 2 *Analysis* may involve data that is represented by an index series.
 - 3 Data may be supplied.
 - 4 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