



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

National Qualifications Framework Levels 1–3, 2004

Mathematics

National Moderator's Report

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General Guidance for Assessors of Achievement and Unit Standards

The purpose of external moderation is to provide reassurance that assessor judgements are at the national standard and are made on the basis of assessment materials that are fair and valid.

All assessment materials are expected to:

- give the student the opportunity to meet the requirements of the standard
- have an assessment schedule that gives evidence of appropriate student responses and clear judgements at all levels.

The Ministry of Education contracted subject experts to write assessment resources for achievement standards. These are not pre-moderated. The intention is that they are modified to suit teaching programmes and student needs. They do not provide 'rules' but suggest different ways of assessing to the nationally-registered standard.

General Overall Comment

Assessment schedules for web tasks must be adapted to give specific examples of acceptable student responses. Where students are required to take practical measurements the values must be included in the schedule.

Assessors must be aware that the level 3 training was given on the draft standards and these were modified prior to registration. Hence the requirements of the registered standards may vary from what was expected at the time of training.

The version number on the cover sheet sent with the material relates to the version of the standard, not to the assessment task.

Appropriate technology should be encouraged in internal assessments and, particularly for level 3 Statistics and Modelling, the use of computer, or at least graphic calculator technology, is assumed.

Only the original assessment material is required for moderation. Reassessment opportunity material is not required.

AS 90149: Solve problems involving measurement of everyday objects

Students must measure real objects and not diagrams.

AS 90193: Use statistical methods and information

Some assessors need to note that a measure of centre and a measure of spread for the data are not required, particularly when this is irrelevant to the problem.

AS 90288: Select a sample and use this to make an inference about the population

1. Few students showed consideration of whether the sample is representative of the data. Students tended to comment on the sampling method rather than looking at the sample and commenting on its reflection of the population.
2. Students are required to use their sample in making inferences about the population.
3. At Achievement with Excellence level, the evaluation should relate to the sampling method.
4. Assessors need to provide less scaffolding in their assessment tasks.

AS 90291: Solve trigonometry problems requiring modelling of practical situations

Scale drawings are not acceptable – students must complete a practical measurement and solve a trigonometric task.

AS 90637: Solve problems and equations involving trigonometric functions

Students are required to **find** the model, **use** the model to solve problems, and **use** trigonometric manipulation.

AS 90641: Determine the trend for time series data

1. For achieved, students are required to determine and describe the trend. The trend line needs to be interpreted in context, rather than just giving the equation. Comments like “*the trend is increasing*” were common and too lightweight.
2. Assessors need to provide less scaffolding in their assessment tasks.
3. For Excellence, few students made comments in relation to the context.

AS 90645: Complete a statistical investigation involving bi-variate data

1. Students tended to remove outliers to give a better fit.
2. Relationship must be quantified.
3. For Excellence, many assessors accepted speculations that were beyond the information provided.

AS 90647: Use a mathematical model involving curve fitting to solve a problem

1. For merit, students are required to have collected and used their own data.
2. Students often used raw data rather than the trend line.

AS 5253: Sketch and describe graphs

Assessors must provide students with the opportunity to describe the features, rather than require them to select from a given list.