



The following report gives feedback to assist assessors with general issues and trends that have been identified during external moderation of the internally assessed standards in 2025. It also provides further insights from moderation material viewed throughout the year and outlines the Assessor Support available for Mathematics and Statistics. Please note this report does not introduce new criteria, change the requirements of the standard, or change what we expect from assessment.

Insights

91944: Explore data using a statistical enquiry process

Performance overview:

This standard requires the exploration of data using a statistical enquiry cycle. In Aotearoa New Zealand, this cycle is the PPDAC cycle, consisting of five stages: Problem, Plan, Data, Analysis, Conclusion.

Investigations can follow one of four styles: comparison (numerical comparison of two or more groups), relationship (between two numerical variables), time series (numerical variable over time), or experimental probabilities (involving events with at least two stages). Evidence must demonstrate an understanding of relevant contextual knowledge and statistical concepts, using appropriate language and technology.

At Achieved, evidence of using the Plan, Data, and Analysis components of the PPDAC cycle is required. At higher levels of achievement, evidence of all components of the statistical enquiry cycle is required. For Merit, justification is also required, and for Excellence, the evidence must demonstrate statistical insight.

Practices that need strengthening:

As in 2024, most evidence submitted this year focused on comparison and relationship investigations, while time series and probability investigations were rare. Additional evidence is required before identifying practices that need strengthening for these types of investigations.

One key criterion in 2025 was explaining the source of the data used in a statistical enquiry process. Students are no longer required to discuss issues that arose or how those issues should be managed when explaining sources of variation. Regardless of investigation type, evidence demonstrating recognition of uncertainty should be included, particularly at higher achievement levels.

Describing features of the data in context with reference to at least one appropriate visualisation remains an area for improvement. Descriptions should focus on features visible in the visualisation rather than sample statistics. For relationship investigations, features should relate to evidence in the scatter plot, such as strength, direction, clusters, and unusual values, and should not reference a trendline. Features must be appropriate to the investigation type and align with level 6 of the New Zealand Curriculum. Visualisations should be well-constructed, with appropriate scales and labels, and be suitable for the investigation type.

At Merit level, strengthening the connection of ideas within the statistical enquiry process is essential for successful investigations. The process should suit the chosen investigation type and include a statistically correct question and a well-reasoned conclusion. When describing the purpose or hypothesis, the discussion should be meaningful and focused on the variables being investigated. Other areas for development include using an investigative question that aligns with the investigation type and demonstrating understanding of representative random sampling when investigating comparison data.

The second Merit criterion involves justifying features consistent with the investigation type in context. This includes using relevant measures that support the evidence and provide clear justification. For example, when using quadrant count to justify the strength of a relationship, students should demonstrate understanding of how the count is calculated and its statistical meaning in relation to the visualisation.

At Excellence, statistical insight requires incorporating both statistical and contextual knowledge into the investigation. To facilitate contextual insight, the context should be familiar and accessible. When using secondary data, care must be taken to ensure that data points on the graph can be readily identified in context. Statistical insight requires a deeper understanding of statistical concepts. For example, students might critique the data collection process by suggesting improvements and explaining which aspects of the graph need further interpretation and why.

91945: Use mathematical methods to explore problems that relate to life in Aotearoa New Zealand or the Pacific

Performance overview:

Achieved involves using mathematical methods that are appropriate to the problems and communicating accurate mathematical information related to the context of the problem. Evidence must include at least four suitable methods drawn from at least two areas: number, algebra, measurement, or geometry and space.

At Merit, evidence must include at least two logical connections between correctly applied methods from different lines in the Conditions of Assessment document. Students should demonstrate a clear understanding that making logical connections involves linking one process to another. Communicating accurate mathematical information in context and using appropriate mathematical statements is also required. Effective communication remains an area for development.

The criterion for Excellence was rewritten in 2025 for clarity. Evidence of extended abstract thinking must be supported mathematically when extending methods to explore or solve a problem by considering limitations, assumptions, generalisations, or predictions. This level of thinking should be evident in two different situations.

Practices that need strengthening:

There has been a noticeable improvement in the quality of evidence for using mathematical methods in 2025. However, some Achieved grades were adjusted during moderation because the methods were not always applied appropriately. To be accepted as evidence, mathematical methods need to be applied correctly, including accurate units and suitable working, and they must be relevant to the problems being explored. Each method selected should come from a different line in the Conditions of Assessment document for the standard and align with level 6 of the New Zealand Curriculum.

Some tasks included highly scaffolded or directed questions, limiting opportunities for students to demonstrate evidence for Achieved or higher. The Conditions of Assessment document specifies that assessors should not give direct instructions, such as telling students to use Pythagoras' theorem to find a length or asking them to calculate the volume or surface area of a named shape. Such questions reduce opportunities for students to demonstrate higher-level thinking, such as making logical connections and showing extended abstract thinking.

For Merit, evidence must include at least two logical connections between correctly applied methods from different lines in the Conditions of Assessment document. These methods should be relevant to the context and include accurate working and units where appropriate. Some Merit grades were adjusted because connections were unclear or methods were applied to problems not asked in the task.

Another area of concern identified in the evidence submitted was that relational thinking consistent with the previous Level 1 Mathematics standard was being accepted as appropriate evidence. For example, situations that required students to show relational thinking by finding an answer to a problem where no linking of methods was required. Another example is when problems involved comparing two different situations and required a conclusion to be made.

Excellence grades were often adjusted due to insufficient evidence of extended abstract thinking. Evidence must go beyond speculative comments and include clear mathematical exploration, with at least two well-communicated examples of extended abstract thinking.

91574: Apply linear programming methods in solving problems

Performance overview:

This standard requires selecting and using linear programming methods to solve problems. The process must include demonstrating knowledge of concepts and terms relevant to the methods applied. Access to appropriate technology can support the development and communication of thinking, contributing to greater fluency in solving problems.

Practices that need strengthening:

Where grades were changed in moderation, further development in solving problems relevant to the context was needed. The application of contextually relevant methods was sometimes not visible in the representations provided as evidence. Inadequate communication around what the solution represents and how the methods are used to find the solution were also reasons for some evidence provided not meeting the standard.

91580: Investigate time series data

Performance overview:

This standard requires the investigation of time series data and involves showing evidence of using each component of the statistical enquiry cycle. This includes selecting and using appropriate displays, identifying features in the data, finding an appropriate model, using the model to make a forecast, and communicating findings in a conclusion. The report must show relevant contextual knowledge and statistical understanding, using appropriate statistical language throughout.

Practices that need strengthening:

Grade changes occurred in moderation when the components of the statistical enquiry cycle needed more evidence of the contextual and statistical understanding at level 8 of the curriculum. In some instances, the statistical discussion was not consistent with the variable being investigated and contextual reasoning lacked coherence. A more comprehensive understanding of the context of the investigation should be evident to meet the standard.

91581: Investigate bivariate measurement data

Performance overview:

Investigating bivariate measurement data involves showing evidence of using each component of the statistical enquiry cycle. This requires using a given multivariate data set to pose an appropriate relationship question to investigate, selecting and using appropriate displays, identifying features in the data, describing the nature and strength of the relationship in context, using the model to make a prediction in context, and communicating findings in a conclusion. The report must show relevant contextual knowledge and statistical understanding, using appropriate statistical language.

Practices that need strengthening:

Grades were changed in moderation due to a lack of understanding of the statistical enquiry cycle required for this standard. Posing questions at level 8 of the curriculum is one area that needed improvement. Ensuring that the contextual knowledge used supported the purpose statement made is another. In some instances, the depth of understanding needed to discuss the patterns evident in the scatter graph at the level required resulted in some evidence not meeting the standard.

91587: Apply systems of simultaneous equations in solving problems

Performance overview:

This standard requires applying systems of simultaneous equations to solve problems. Evidence must include appropriate representations. Access to technology can support success and enable clearer communication of the solution process. Communicating solutions effectively in context is also essential for meeting the standard.

Practices that need strengthening:

Grade changes occurred in moderation when situations were set in contexts that were unfamiliar or resulted in non-whole number solutions. The opportunity for evidence of applying knowledge or understanding of mathematical concepts was therefore hindered. In some cases, this led to the requirements of the standard not being met. Misinterpreting the nature of solutions of systems is another reason that the evidence provided did not meet the standard.

To give feedback on this report click on [this link](#).

Assessor Support

NZQA offers free online support for teachers as assessors of NZC achievement standards. These include:

- Exemplars of student work for most standards.
- National Moderator Reports.
- Online learning modules (generic and subject-specific).

- Clarifications for some standards.
- Assessor Practice Tool for many standards.
- Webcasts.

Exemplars, National Moderator Reports, clarifications, and webcasts are hosted on the NZC Subject pages on the NZQA website.

[Subject Pages](#)

Online learning modules and the Assessor Practice Tool are hosted on Pūtake, NZQA's learning management system. You can access these through the Education Sector Logon.

[Log in to Pūtake](#)

We also may provide a speaker to present at national conferences on requests from national subject associations. At the regional or local level, we may be able to provide online support.

Please contact assessorsupport@nzqa.govt.nz for more information or to lodge a request for support.