2024 NCEA Interim Assessment Report

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New Zealand Qualifications Authority

Subject: Numeracy

Achievement standard(s): 32406

General commentary

The purpose of this report is to provide a high-level snapshot of areas of strength and weakness following the first assessment event of the NCEA Literacy and Numeracy standards, which took place during the weeks 20–31 May 2024. A more detailed Assessment Report will be released following the second assessment event results release. The assessments involved online Common Assessment Activities, each of which learners completed in a single sitting with no time limit.

Careful consideration must be given to simply re-entering students for the second assessment because they didn't Achieve in the first one. Ensure students have undergone sufficient additional teaching to address areas of weakness, and that they are well prepared before they attempt the assessment again. The following guidance has been provided by the markers of the assessments – an experienced group of teachers with insights from marking numerous student responses.

Report on individual achievement standard(s)

Achievement standard 32406: Numeracy

Summary

Areas of strength demonstrated by candidates who were clearly at, or above, the required standard:

- locating the position of 225 million years ago on a timeline
- reading a line graph to determine the number of tuatara present, for a given year
- extending a visual growth pattern (1, 3, 7, 15, ...) to find the total number of squares in the next term
- locating all the lines of reflection symmetry for a headband design
- applying the mass of one litre of water to find the mass of an empty water container
- finding the unit rate charge, given the total cost and amount used
- establishing which season had the highest rainfall, from a time series graph
- reading a line graph to determine the difference in attendance at *Polyfest*, for two given years
- using a timetable to compare the duration of two different types of performance
- calculating how many times heavier the tuatara is than the wētā, given the mass of both animals

- modelling how many tuatara will be born in 10 years, given the frequency of egg laying and the number of eggs per clutch
- interpreting the scale on a map to find the location of an offshore island
- selecting the top view that matches pictures of a sculpture
- calculating how many amounts of $1000 there are in $2,600,000
- interpreting a time given in hours and minutes and rounding it to the nearest hour
- calculating the number of 250 mL glasses that can be filled from three 1.5 L bottles
- using percentages to compare the amount of water in an adult pig with the amount of water in a piglet
- locating a probability of $\frac{2}{5}$ on a scale from 'impossible' to 'certain'
- using two visual displays to work out how many performers needed to move to change from one formation into another
- organising heights, expressed as decimals, in descending order
- explaining whether, or not, a dot plot of lengths given in mm, provides evidence for the presence of young tuatara
- comparing a cartoon image with normal proportions of human faces, using fractions
- interpreting a graphic about water usage to decide which measure saves the most water
- evaluating a claim about future numbers of attendees using evidence from a time series graph
- using rate (speed) to evaluate a claim about the average speed of a Rugby-7s player during a game
- explaining whether a captain should choose heads or tails for a future coin toss, given a record of three previous tosses
- using a data table to explain the correctness, or incorrectness, of a claim about the percentage of times NZ Sevens teams made Olympic finals.

Areas requiring improvement for candidates who were not at, or were borderline in meeting, the required standard:

- selecting mathematical and statistical approaches that did not meet the demands of the situation
- interpreting the question correctly
- understanding the problem, as shown by not providing an answer or stating they did not know (IDK)
- calculating or reasoning correctly
- selecting a correct procedure
- taking a position in relation to a given situation (usually any position is accepted if it is justified)
- justifying their position to a given situation by doing more than just restating the claim.

Commentary

Marker reflections across the assessment that may support next steps:

- experiencing a wide range of realistic contexts from everyday life, and connecting the mathematics and statistics used across a range of contexts
- placing value within large whole numbers, an example of multiplicative operators between amounts, which is essential for working with rates and ratios

- understanding basic units of measurement, especially conversions between units
- interpreting rates
- identifying reflective symmetry
- locating numbers on various scales
- interpreting dot plots to give meaning
- understanding and interpretation of diagrammatic literacy
- interpreting viewpoints given a situation
- continued support for ākonga about taking a mathematical or statistical position and the use of evidence to explain their position.
