

Guide to making judgments — Year 9 Mathematics Student

Purpose: To use mathematical reasoning to develop an appropriate local plan for storage and use of rainwater.

Knowledge and understanding	Thinking and reasoning	Thinking and reasoning	Communicating	
<p>Selection and manipulation of formulas to calculate lengths, volumes and statistical measures of central tendency.</p> <p>Questions 1, 3, 5, 6, 8, 9</p>	<p>Choice of strategies and procedures to generate solutions.</p> <p>Questions 7, 10</p>	<p>Generalisation and justification of reasoning.</p> <p>Questions 2, 4, 10</p>	<p>Use of mathematical language and representations to communicate thinking and to justify reasoning.</p> <p>Questions 1–10</p>	
<div>▲</div> <p>◀ Demonstrates consistent success in selecting, manipulating and applying appropriate formulas.</p> <p>◀ Demonstrates proficiency in selecting and applying appropriate formulas.</p> <p>◀ Demonstrates variable success in selecting and applying formulas.</p>	<div>▲</div> <p>◀ Successfully applies a multi-step procedure to check the rain gauge graduation. Chooses a tank size which accurately meets the needs of the rainwater-use plan.</p> <p>◀ Demonstrates significant progress in applying a multi-step procedure to check the rain gauge graduation. Determines a realistic plan for rainwater use.</p> <p>◀ Chooses an appropriate strategy to plan rainwater use and storage, with some success. Links choice of tank size to rainwater-use plan.</p> <p>◀ Demonstrates some success in developing a plan to make use of available rainwater.</p>	<div>▲</div> <p>◀ Justifies choice of tank size with an accurate analysis of water use and rainfall availability.</p> <p>◀ Makes perceptive generalisations about accuracy of rainfall measurements and predictors of rainfall.</p> <p>◀ Bases rainwater-use plan on a well-reasoned comparison of water needs and available rainwater. Justifies choice of tank size with a partial analysis of water use and rainwater availability.</p> <p>◀ Makes a plausible generalisation about accuracy of rainfall measurements or predictors of rainfall. Bases rainwater-use plan on a comparison of water needs and available rainwater.</p> <p>◀ Some calculation of expected rainfall or water use evident.</p>	<div>▲</div> <p>◀ Clearly communicates procedures, reasoning and justification using mathematical representations, language, working, rounding and units.</p> <p>◀ Shows working and units in calculations. Communication of explanations and justifications is variable.</p> <p>◀ Occasionally shows working and uses everyday language.</p>	A
				B
				C
				D
				E

Feedback

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