

Mathematics Problem Solving Official Scoring Guide

Apply mathematics in a variety of settings. Build new mathematical knowledge through problem solving. Solve problems that arise in mathematics and in other contexts.
Apply and adapt a variety of appropriate strategies to solve problems. Monitor and reflect on the process of mathematical problem solving.

Process Dimensions	**6/ 5	4	3	*2 / 1
Making Sense of the Task <i>Interpret the concepts of the task and translate them into mathematics.</i>	The interpretation and/or translation of the task are - thoroughly developed and/or - enhanced through connections and/or extensions to other mathematical ideas or other contexts.	The interpretation and translation of the task are - adequately developed and - adequately displayed.	The interpretation and/or translation of the task are - partially developed, and/or - partially displayed.	The interpretation and/or translation of the task are - underdeveloped, - sketchy, - using inappropriate concepts, - minimal, and/or - not evident.
Representing and Solving the Task <i>Use models, pictures, diagrams, and/or symbols to represent and solve the task situation and select an effective strategy to solve the task.</i>	The strategy and representations used are - elegant (insightful), - complex, - enhanced through comparisons to other representations and/or generalizations.	The strategy that has been selected and applied and the representations used are - effective and - complete.	The strategy that has been selected and applied and the representations used are - partially effective and/or - partially complete.	The strategy selected and representations used are - underdeveloped, - sketchy, - not useful, - minimal, - not evident, and/or - in conflict with the solution/outcome.
Communicating Reasoning <i>Coherently communicate mathematical reasoning and clearly use mathematical language.</i>	The use of mathematical language and communication of the reasoning are - elegant (insightful) and/or - enhanced with graphics or examples to allow the reader to move easily from one thought to another.	The use of mathematical language and communication of the reasoning - follow a clear and coherent path throughout the entire work sample and - lead to a clearly identified solution/outcome.	The use of mathematical language and communication of the reasoning - are partially displayed with significant gaps and/or - do not clearly lead to a solution/outcome.	The use of mathematical language and communication of the reasoning are - underdeveloped, - sketchy, - inappropriate, - minimal, and/or - not evident.
Accuracy <i>Support the solution/outcome.</i>	The solution/outcome is correct and enhanced by - extensions, - connections, - generalizations, and/or - asking new questions leading to new problems.	The solution/outcome given is - correct, - mathematically justified, and - supported by the work.	The solution/outcome given is - incorrect due to minor error(s), or - a correct answer but work contains minor error(s) - partially complete, and/or - partially correct	The solution/outcome given is - incorrect and/or - incomplete, or - correct, but - conflicts with the work, or - not supported by the work.
Reflecting and Evaluating <i>State the solution/outcome in the context of the task.</i> <i>Defend the process, evaluate and interpret the reasonableness of the solution/outcome.</i>	Justifying the solution/outcome completely, the student reflection also includes - reworking the task using a different method, - evaluating the relative effectiveness and/or efficiency of different approaches taken, and/or - providing evidence of considering other possible solution/outcomes and/or interpretations.	The solution/outcome is stated within the context of the task, and the reflection justifies the solution/outcome completely by reviewing - the interpretation of the task - concepts, - strategies, - calculations, and - reasonableness.	The solution/outcome is not stated clearly within the context of the task, and/or the reflection only partially justifies the solution/outcome by reviewing - the task situation, - concepts, - strategies, - calculations, and/or - reasonableness.	The solution/outcome is not clearly identified and/or the justification is - underdeveloped, - sketchy, - ineffective, - minimal, - not evident, and/or - inappropriate.

**6 for a given dimension would have most attributes in the list; 5 would have some of those attributes.

*2 for a given dimension would be underdeveloped or sketchy, while a 1 would be minimal or nonexistent.