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 *Interpret the concepts of the task and translate them into mathematics.*	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 *Use models, pictures, diagrams, and/or symbols to represent and solve the task situation and select an effective strategy to solve the task.*	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 *Coherently communicate mathematical reasoning and clearly use mathematical language.*	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 *Support the solution/outcome.*	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 o conflicts with the work, or o not supported by the work.
Reflecting and Evaluating *State the solution/outcome in the context of the task.* *Defend the process, evaluate and interpret the reasonableness of the solution/outcome.*	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.**