Standards-Based Math Rubric 6-12

	Problem Solving	Reasoning and Proof	Communication	Connections	Representation
Novice	No strategy is chosen, or a strategy is chosen that will not lead to a solution. Little or no evidence of engagement in the task is present.	Arguments are made with no mathematical basis. No correct reasoning nor justification for reasoning is present.	No awareness of audience or purpose is communicated. No formal mathematical terms or symbolic notations are evident.	No connections are made or connections are mathematically or contextually irrelevant.	No attempt is made to construct a mathematical representation.
Apprentice	A partially correct strategy is chosen, or a correct strategy for only solving part of the task is chosen. Evidence of drawing on some relevant previous knowledge is present, showing some relevant engagement in the task.	Arguments are made with some mathematical basis. Some correct reasoning or justification for reasoning is present.	Some awareness of audience or purpose is communicated. Argument(s) may lack clarity and/or are incomplete. Some interpretation is required. Some communication of an approach is evident through verbal/written accounts and explanations. An attempt is made to use formal math language. Minimal formal math language or appropriate use of symbolic notation is evident.	A mathematical connection is attempted but is partially incorrect or lacks contextual relevance.	An attempt is made to construct a mathematical representation to record and communicate problem solving but is not accurate.

Standards-Based Math Rubric 6-12 (cont.)

	Problem Solving	Reasoning and Proof	Communication	Connections	Representation
Practitioner	A correct strategy is chosen based on the mathematical situation in the task. Planning or monitoring of strategy is evident. Evidence of solidifying prior knowledge and applying it to the problem-solving situation is present. *Note: The Practitioner must achieve a correct answer.*	Arguments are constructed with adequate mathematical basis. A systematic approach and/or justification of correct reasoning is present.	A sense of audience or purpose is communicated. Communication is clear and complete. No interpretation is required. An approach is evident through a methodical, organized, coherent, sequenced and labeled response. Formal math language is used to share and clarify ideas. Adequate and appropriate formal mathematics language and/or symbolic notation are evident.	A mathematical connection is made. Proper contexts are identified that link both the mathematics and the situation in the task. Some examples may include one or more of the following: • clarification of the mathematical or situational context of the task • exploration of mathematical phenomenon in the context of the broader topic in which the task is situated • noting patterns, structures and regularities	Appropriate and accurate mathematical representation(s) are constructed and refined to solve problems or portray solutions.
Expert	An efficient strategy is chosen and progress towards a solution is evaluated. Adjustments in strategy, if necessary, are made along the way, and/or alternative strategies are considered. Evidence of analyzing the situation in mathematical terms and extending prior knowledge is present. *Note: The Expert must achieve a correct answer.*	Rigorous arguments are used to justify decisions and may result in formal proofs. Evidence is used to justify and support decisions made and conclusions reached.	Communication at the Practitioner level is achieved, and communication of argument is supported by mathematical properties. Formal math language and symbolic notation is used to consolidate math thinking and to communicate ideas. Mathematical language and symbolic notations are used rigorously and coherently throughout the work. Insight is communicated about the quality and efficiency of work/reasoning/method/strategy.	Mathematical connections are used to extend the solution to other mathematics or to a deeper understanding of the mathematics in the task. Some examples may include one or more of the following: • testing and accepting or rejecting of a hypothesis or conjecture • explanation of phenomenon • generalizing and extending the solution to other cases	Appropriate mathematical representation(s) are constructed to analyze relationships, extend thinking and clarify or interpret phenomenon.