Math Performance Assessment Rubric

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PROBLEM SOLVING What is the evidence that the student understands the problem and the mathematical strategies that can be used to arrive at a solution?	Creates a model to simplify a complicated situation and identifies limitations of model Analyzes all given constraints, goals and definitions and implied assumptions Uses novel problem solving strategies and/or strategic use of tools	Creates an accurate model to simplify a complicated situation Analyzes all given constraints Uses appropriate problem solving strategies	Creates a limited model to simplify a complicated situation, with computational errors Identifies all but only attends to some of the given constraints Uses appropriate problem solving strategies, with computational errors	Creates a limited model to simplify a complicated situation, with conceptual errors Identifies and attends to some of the given constraints Uses inappropriate or inefficient problem solving strategies with conceptual errors	Does not provide a model or the model has repeated conceptual errors Does not attend to given constraints Uses few, if any, problem solving strategies or has repeated conceptual errors
REASONING AND PROOF What is the evidence that the student can apply mathematical reasoning/procedures in an accurate and complete manner?	Constructs accurate solutions with logical, correct and complete justifications Interprets results correctly in terms of context, indicating the domain to which a solution applies Monitors for reasonableness, identifies sources of error, and adapts appropriately	Constructs solutions with logical, correct, and complete justifications Results are interpreted correctly in terms of context	Provides accurate solutions with partial or unclear justifications Results are interpreted partially in terms of context	Provides solutions with partial or unclear justifications Results are interpreted partially or incorrectly in terms of context	Provides solutions without justifications Results are not interpreted in terms of context
COMMUNICATION AND REPRESENTATION What is the evidence that the student can communicate mathematical ideas to others?	Uses multiple representations (diagrams, tables, graphs, formula) and key explanations understand the solution; only relevant representations are included Uses precise definitions and accurate representations including units of measure and labeled axes; uses formal notation	Uses multiple representations (diagrams, tables, graphs, formulas) to help follow the chain of reasoning Uses precise definitions and accurate representations, including units of measure and labeled axes	Uses correct representation(s) (diagrams, tables, graphs, formulas), but they do not help follow the chain of reasoning; extraneous representations may be included Uses definitions and representations, including units of measure and labeled axes	Uses representation(s) (diagrams, tables, graphs, formulas), but they do not help follow the chain of reasoning Uses imprecise definitions or incomplete representations, missing units of measure or labeled axes	Representation(s) (diagrams, tables, graphs, formulas) have errors and they do not help follow the chain of reasoning Uses incorrect definitions or inaccurate representations