Math/Quantitative Reasoning GE Rubric

Students will demonstrate mathematical skills and quantitative reasoning, including the ability to
- interpret and draw inferences from appropriate mathematical models such as formulas, graphs, tables, or schematics;
- represent mathematical information symbolically, visually, numerically, or verbally as appropriate; and
- employ quantitative methods such as arithmetic, algebra, geometry, or statistics to solve problems.

SLOs	Exceeds Expectations (9-10 pts)	Meets Expectations (8-8.9 pts)	Approaches Expectations (7-7.9 pts)	Does Not Meet (6.9 and below)
Interpret and draw inferences	The student correctly interprets the variables, parameters, and/or other specific information given in the model; student uses the model to draw inferences about the situation being modeled in a manner that is correct and evident; interpretations and inferences completely and accurately represent the model or answer the question(s).	The student's interpretation of the variables, parameters, and/or other specific information given in the model contains minor flaws; student uses the model to draw inferences about the situation being modeled in a manner that may contain some minor errors; interpretations and/or inferences are incomplete or inaccurate due to a small mistake such as a computational or copying error or mislabeling.	The student's interpretation of the variables, parameters, and/or other specific information given in the model contains major conceptual misunderstandings; student attempts to use the model to make the required inferences and/or interpretations but lacks a clear understanding of how to do so. Interpretations and/or inferences are incomplete or inaccurate due to a major conceptual flaw.	The student cannot interpret the variables, parameters, and/or other specific information given in the model; student cannot use the model to make the required interpretations and/or inferences; interpretations and/or inferences are missing or entirely inaccurate. Student's response does not address the question in any meaningful way.
Represent mathematical information	The student fully understands the mathematical information and correctly and accurately employs all the appropriate and required aspects of the representation to display the information. The student uses the correct format, mathematical terminology, and/or language. Variables are clearly defined, graphs are correctly labeled and scaled, and the representation is otherwise complete as required.	The student understands most of the important aspects of the mathematical information and correctly and accurately employs most of the appropriate and required aspects of the representation to display the information. The student uses mostly correct format, mathematical terminology, and/or language but there is a misrepresentation of the information due to a minor computational/copying error. Variables are clearly defined, graphs are correctly labeled and scaled, but the representation is	The student does not fully understand the important aspects of the mathematical information and employs the appropriate representation(s) to display the mathematical information with major conceptual flaws. The student uses some correct format, mathematical terminology, and/or language. Variables are clearly defined, graphs are correctly labeled and scaled, but the representation is incomplete in some major conceptual way	The student cannot represent the mathematical information in the representation(s) required. The representation is incomprehensible or unrelated to the given information. The process of developing the representation is completely incorrect. The student's response does not address the question in any meaningful way or there is no response at all.

		incomplete in some minor way.		
Employ quantitative methods	The student demonstrates a full understanding of the problem and/or can identify a specific numeric, algebraic, geometric, or statistical method(s) to solve the problem. The student uses the method(s) to solve the problem. The plan for the solution is clear, logical and evident. The solution is accurate and complete.	The student demonstrates some understanding of the problem and/or can identify the specific arithmetic, algebraic, geometric or statistical method(s) to solve the problem. The student uses the method(s) to solve the problem. The plan for the solution is clear, logical and evident but contains minor flaws such as a simple misreading of the problem or a copying error. The solution is generally correct but may contain minor flaws.	The student demonstrates only a slight understanding of the problem. The student has difficulty identifying the specific arithmetic, algebraic, geometric, or statistical method(s) needed to solve the problem. The student attempts to use a method(s) that will solve the problem, but the method itself or the implementation of it is generally incorrect. The plan is not evident or logical. The solution contains some correct aspects but also major conceptual flaw(s).	The student demonstrates no understanding of the problem and cannot identify the specific arithmetic, algebraic, geometric or statistical method(s) needed to solve the problem. The student cannot determine a method(s) that will solve the problem. Little or no work is shown that relates to the correct solution of the problem The student's response does not address the question in any meaningful way or there is no response at all.

Benchmark: 100% of students will meet or exceed expectations

Give students a score for each row of the rubric, convert it to a 100-pt. scale and sort students into the appropriate category.

Example
Interpret and draw inferences: 8/10 = 80   Student meets
Represent mathematical information: 7.5/10 = 75   Student approaches