

GE SLO 2.1 Solve problems using mathematical methods.

	Initial 1	Emerging 2	Developing 3	Highly Developed 4
Correctness	Calculations are attempted but are both unsuccessful and incomplete. Conceptual misunderstandings prevent the student from interpreting the variables, parameters, or other specific information given.	Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem. The student demonstrates the ability to interpret the variables, parameters, or other specific information given, but the interpretation may contain flaws.	Calculations attempted are successful and sufficiently comprehensive to solve the problem. The student demonstrates the ability to correctly interpret the variables, parameters, and/or other specific information given.	Calculations successfully, comprehensively, and elegantly solve the problem. The student interprets the question and given information in a way that creates a better understanding of the problem.
Completeness	Results are not interpreted. There is no explanation of the solution, the explanation cannot be understood, or the explanation is unrelated to the problem.	Some results are interpreted. There is incomplete explanation. The interpretation and/or explanation may not be clearly presented.	Results are interpreted completely. There is a complete explanation of the problem and the solution.	Interpretation of results gives key insight into problem. There is a complete explanation detailing all of steps of a solution so that the reader does not need to infer student reasoning.
Clarity	There is no use or inappropriate use of mathematical representations (e.g. figures, diagrams, graphs, tables, etc.). There is no use, or mostly inappropriate use, of mathematical terminology and notation. Explanations are unclear.	There is some use of appropriate mathematical representation. There is some use of mathematical terminology and notation appropriate of the problem. Explanations are somewhat clear.	There is appropriate use of accurate mathematical representation. There is effective use of mathematical terminology and notation. Explanations are clear.	Mathematical representation is actively used as a means of communicating ideas related to the solution of the problem. There is precise and appropriate use of mathematical terminology and notation. Explanations are concise and clear.
Creativity	No approaches are explored beyond those found in textbook. Different perspectives or tools are kept mostly separate. No abstract structures are identified.	Some approaches are explored beyond those found in textbook. Some integration of perspectives or tools is demonstrated. Some abstract structures are identified.	Novel or efficient approaches are explored. Significant integration is demonstrated of perspectives and tools. Abstract structures are identified that give insight into problem beyond the ability to follow solution algorithm.	Approaches crack the problem and demonstrate deep understanding of mathematical concepts. Integration leads to a new understanding of problem and/or new approaches. Abstract structures are constructed that frame a class of problems in a novel or clarifying way.

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