General Education Competency
Mathematical Reasoning Rubric

Competencies	Excellent (4)	Proficient (3)	Adequate (2)	Inadequate (1)
1. Constructs and/or analyzes numerical or graphical representations of data Examples: • Analyzes and describes the slope of linear data in numerical and/or graphical representations • Describes a trend indicated in a chart or a graph, and makes predictions from that trend	• A correct solution using an appropriate strategy is given. • Descriptions of the results are complete and coherent.	• A complete, appropriate strategy is shown or explained but an incorrect solution is given due to a simple computational or other error. • Descriptions of the results are mostly correct and comprehensible.	• Some parts of an appropriate strategy are shown or explained, but key elements are missing, inappropriate or implemented incorrectly. • A description of the results is attempted but may be incomplete.	• Some work or explanation beyond re-copying data is shown, but work would not lead to a correct solution or no solution is given. • There are no descriptions or explanations of the results.
2. Simplifies, evaluates, and/or solves various equations and/or formulas Examples: • Solves linear equations in one variable • Implements and manipulates formulas appropriately • Describes and uses the properties of exponents • Performs unit conversions	• Demonstrates complete understanding of the problems with correct solutions. • Answers are interpreted correctly. . • Correctly identifies and performs unit conversions, if required. • Answers are labeled correctly, if required.	• Misinterprets minor parts of some problems with few computational errors. • Most answers are interpreted correctly. • Correctly identifies and performs unit conversions, if required, most of the time. • Most answers have labels, if required, but may be inappropriate.	• Misinterprets major parts of the problems with several computational errors, gives partial answers for problems with multiple answers. • An interpretation is attempted for most answers • Correctly identifies and performs unit conversions, if required, some of the time. • Some answers may have labels but they may be incorrect or missing.	• Completely misinterprets the problem or gives no attempt. • There is no interpretation of any results. • Neither identifies nor performs unit conversions or incorrectly identifies and performs unit conversions, if required, all of the time. • No labels, if required, are given for any answers.

3. Formulates and communicates mathematical explanations. Examples: • Constructs an appropriate and effective problem-solving strategy. • Describes the results of problem solving either orally or in writing.	• Gives a complete response with clear explanations. • Communicates effectively to the intended audience. • Demonstrates complete understanding of the mathematical ideas and processes.	• Completes the problem satisfactorily. • The communication is comprehensible. • Uses mathematical ideas and processes effectively.	• Begins appropriately but may fail to complete or may omit significant parts of the problem. • An explanation is present but may be muddled or incomplete. • Attempts but may fail to demonstrate comprehension of mathematical ideas.	• Copies parts of the problem but without attempting a solution; or gives no solution. • The explanation is not understandable or is missing. • Shows no understanding of the problem situation.