

Rubric for Quantitative Reasoning¹

	Analysis ²	Calculations	Visual Representations of Data and Information (e.g. tables and graphs)
4 (Advanced)	<ul style="list-style-type: none"> • Demonstrate a deep understanding of the quantitative problem space, including appropriate vocabulary, terminology, and notation. • Develop and implement a valid problem-solving strategy that leads to logically consistent correct conclusions. 	<ul style="list-style-type: none"> • Demonstrate proficiency with computational methods appropriate to the quantitative problem space. • Results are correct and presented clearly and concisely; computational steps are logically justified. 	<ul style="list-style-type: none"> • Visual representations (e.g. tables, graphs, schematics) of data or concepts are complete, accurate, and enlightening. • Visual representations are effectively utilized to make conclusions that are correct, detailed, and consistent with the visual representations.
3 (Competent)	<ul style="list-style-type: none"> • Demonstrate a sufficient understanding of the quantitative problem space; contains minor gaps or misinterpretations. • Develop and implement a reasonable problem-solving strategy to make conclusions. The strategy and/or its implementation may not be optimal, may contain minor logical gaps, may lack important detail, and/or may not lead to correct conclusions. 	<ul style="list-style-type: none"> • Computational methods are appropriate to the quantitative problem space. • Computations include minor mistakes; computational steps are logically justified. 	<ul style="list-style-type: none"> • Visual representations of data or concepts are accurate, but may be incomplete and/or difficult to understand. • Conclusions contain minor inaccuracies or lack sufficient detail, but are generally consistent with the visual representations.
2 (Emerging)	<ul style="list-style-type: none"> • Demonstrate only a limited understanding of the quantitative problem space; contains major gaps and/or misinterpretations. • The problem-solving strategy is ill-defined, inappropriate, and/or incomplete. The strategy and/or its implementation contains major logical gaps and does not lead to correct conclusions. 	<ul style="list-style-type: none"> • Computational methods are not optimal for the quantitative problem space. • Computations include multiple mistakes; steps are not logically justified. 	<ul style="list-style-type: none"> • Visual representations contain minor flaws, inaccuracies, or inconsistencies, and may be difficult to understand. • Conclusions contain inconsistencies with the visual representations.
1 (Beginning)	<ul style="list-style-type: none"> • No demonstrated understanding of the quantitative problem space. • No demonstrated strategy; conclusions are incorrect. 	<ul style="list-style-type: none"> • Computational methods are inappropriate for the quantitative problem space. • Computations include multiple mistakes; steps are not logically justified. 	<ul style="list-style-type: none"> • Visual representations are inaccurate, imprecise, and/or inappropriate. • Visual representations are not used to make conclusions.

1. Quantitative Reasoning covers a wide range of competency across different majors/programs. The rubrics above should be interpreted as appropriate *within each major/program*.
2. This column represents critical thinking as an imbedded aspect of Quantitative Reasoning.
3. Problem-solving is used here in the broadest sense and should not be confused with symbolic mathematical problem solving.