Quantitative Reasoning Rubric

A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well-reasoned decisions.

Criteria	0 – unacceptable	1 – needs improvement	2 – good	3 – excellent
Interpretation of data Can the student answer questions related to provided numerical information Example – look at a chart and give the correct temperature for a charted date	Demonstrates very little (if any) understanding of the given information	Demonstrates a limited understanding; can answer questions directly related to the data but with substantial (formulaic) errors	Demonstrates an understanding of the given information; can answer questions directly related to the data with minor (calculation) errors	Demonstrates a thorough understanding of the given information; can correctly answer questions related to the data
Analysis: numerical Can the student use provided information to draw conclusions about a related topic Example – Use a graph of past data to make predictions about the future	Conclusion is not presented or is invalid	Draws on data to make predictive conclusions, but with substantial (formulaic) errors	Draws on data to make predictive conclusions, with minor (calculation) errors	Draws on data to make accurate, predictive conclusions
Problem solving: numerical Can the student set up problems and calculate the solutions correctly	Did not organize or calculate a mathematical strategy for a given situation	Organizes and calculates a mathematical solution with mistakes in organization **AND** calculation	Organizes and calculates a mathematical solution with mistakes in organization **OR** calculation	Correctly organizes and calculates a mathematical solution for a given situation
Translate information Can the student correctly translate information from the problem/data set into mathematical symbols,	Does not present mathematical information correctly	Presents information from the problem into mathematical symbols, graphs, or tables with substantial (formulaic) errors	Presents information from the problem into mathematical symbols, graphs, or tables with minor (calculation) errors	Correctly presents information into mathematical symbols, graphs, or tables

graphs, or tables				

For lower division courses/assignments, students should either interpret given information from a graph/chart or translate given data into a graph/chart; for upper division and graduate courses/assignments, students should be able to achieve all criteria.

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