

QUANTITATIVE REASONING RUBRIC

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet level one performance criteria minimum.

	4	3	2	1
Interpret Information	Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information.	Provides accurate explanations of information presented in mathematical forms.	Provides explanations of information presented in mathematical forms, but makes errors within the explanation or inappropriate inferences based on the information.	Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.
Represent Information	Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.	Competently converts relevant information into an appropriate and desired mathematical portrayal.	Completes conversion of information but resulting mathematical portrayal is only partially appropriate <i>or</i> accurate.	Completes conversion of information but resulting mathematical portrayal is inappropriate <i>or</i> inaccurate.
Perform Calculations	Calculations attempted are all successful and sufficiently comprehensive to solve the problem. Calculations are also presented elegantly (clearly, concisely, etc.) and address the validity of the results.	Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations are also presented cohesively and address the validity of the results.	Calculations attempted are successful but only represent a portion of the calculations required to comprehensively solve the problem.	Calculations are attempted but are unsuccessful and may not be comprehensive.
Apply and Analyze Information	Uses quantitative analysis as the basis for deep and thoughtful judgments, drawing insightful, carefully qualified conclusions from this work.	Uses quantitative analysis as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.	Uses quantitative analysis as the basis for tentative, basic judgments, drawing plausible conclusions from this work.	Uses quantitative analysis as the basis for unskilled judgments, is hesitant or uncertain about drawing conclusions from this work.
Communicate Using Mathematical Forms	Uses quantifiable information in connection with a written argument or description of purpose of the work, presents it in an effective format, and explains with consistently high quality (may also include an oral argument).	Uses quantifiable information in connection with a written argument or description of purpose of the work, though data may be presented in a less than complete format or some parts of the explanation may be disjointed.	Presents a written argument but does not provide adequate quantifiable information to support or connect the argument and purpose of work.	Uses quantifiable information, but does not articulate a written argument that connects to the purpose of the work and the information.
Address Assumptions (Required of statistics courses only)	Specifically describes assumptions and provides compelling rationale for why each assumption is appropriate. Shows awareness that confidence in final conclusions is limited by the accuracy of the assumptions.	Specifically describes assumptions and provides compelling rationale for why assumptions are appropriate.	Specifically describes assumptions but attempts made to address rationale are inappropriate or ineffective.	Specifically describes assumptions but lacks rationale.

Math (SLOs 1-5; and SLO 6 for Statistics courses only)

This rubric was adapted by CDHE from the Association of American Colleges and Universities (AAC&U) VALUE rubrics and is also aligned with the Interstate Passport Initiative Learning Outcomes. The original VALUE rubrics may be accessed at <http://www.aacu.org/value-rubrics>. The Interstate Passport Initiative Learning Outcomes can be accessed at <http://www.wiche.edu/passport/learningOutcomesCriteria>.