

Mathematics Reasoning Rubric

Revised June 2012

OUTCOME	Superior (4)	Proficient (3)	Basic (2)	Developing (1)
Identification of Mathematical Models	Examines new problem areas in industry and applies mathematical models to address the problems	Represents a wide variety of real-life situations using mathematical expressions, equations, diagrams, graphs, or other appropriate mathematical language	Represents some real-life situations using mathematical expressions, equations, diagrams, graphs, or other appropriate mathematical language	Makes numerous errors when representing real-life situations using mathematical expressions, equations, diagrams, graphs, or other mathematical language
Communication	Seeks out new mathematical discoveries and trends that can be applied to business and industry and discusses the possible applications with colleagues	Communicates mathematical processes and ideas clearly to others in writing or verbally. Correctly interprets mathematical language and symbols presented in print or given verbally.	Makes occasional errors when communicating mathematical processes and ideas to others or when interpreting mathematical language or symbols presented in print or given verbally	Makes frequent errors when communicating mathematical processes and ideas to others or when interpreting mathematical language and symbols presented in print or given verbally
Application to Everyday Situations	Matches mathematical processes to fields in business and industry that previously did not benefit from such processes	Recognizes and applies appropriate mathematical methods in solving everyday problems	Recognizes and applies mathematical methods in solving most everyday problems	Seldom recognizes or applies mathematical methods in everyday problem solving situations
Measurement	Uses measurement scales for specialized fields such as nanotechnology or astronomy	Uses correct units and/or scales for a wide variety of situations and approximates answers to the appropriate level of precision	Usually uses correct units and/or scales for situations and usually approximates answers to the appropriate level of precision	Seldom uses correct units and/or scales for situations and makes errors in judging an appropriate level of precision
Number Sense	Identifies errors in common procedures carried out by business and industry and devises a remedy for improved efficiency	Judges the reasonableness of numerical computations and their results and uses estimation to predict an approximate result	Makes occasional errors in judging the reasonableness of numerical computations and their results and does not regularly use estimation to predict an approximate result	Does not consider the reasonableness of numerical computations and their results and does not use estimation to predict an approximate result