Problem Solving Rubric

	Understanding	Strategies, Reasoning, Procedures	Communication
0	• There is no solution, or the solution has no relationship to the task. • Inappropriate concepts are applied and/or procedures are used. • The solution addresses none of the mathematical components presented in the task.	•No evidence of a correct strategy or procedure. • No evidence of mathematical reasoning. • Many errors in mathematical procedures.	• There is no explanation of the solution or the explanation is unclear. • There is no use, or mostly inappropriate use, of mathematical terminology, notation and representation.
1	• The solution is incomplete indicating that parts of the problem are not understood. • The solution addresses only some of the mathematical components presented in the task.	• Uses a strategy that leads to a partial solution. • Some evidence of mathematical reasoning. • Some errors in mathematical procedures.	• The explanation is incomplete or not clearly presented. • There is some use of mathematical terminology, notation and representation appropriate to the problem.
2	• The solution shows a broad understanding of the problem and the major concepts necessary for its solution. • The solution addresses all of the mathematical components presented in the task.	• Uses a strategy that leads to a solution of the problem. • Uses effective mathematical reasoning. • Mathematical procedures used. • All parts are correct and a correct answer is achieved.	• There is a clear explanation. • There is appropriate use of accurate mathematical representation. • There is an effective use of mathematical terminology and notation.
3	• The solution shows a deep understanding of the problem and identifies the appropriate mathematical concepts and necessary information. • The solution completely addresses all mathematical components presented in the task. • The solution puts to use the underlying mathematical concepts upon which the task is designed.	• Uses a very efficient and sophisticated strategy leading directly to a solution. • Uses more than one strategy. • Employs refined and complex reasoning. • Applies procedures accurately to correctly solve the problem and verify the results. • Makes mathematically relevant observations and/or connections.	• There is a clear, effective explanation detailing all steps so that the reader does not need to infer how and why decisions were made. • Active use of mathematical representation to communicate ideas related to the solution of the problem. • There is precise and appropriate use of mathematical terminology and notation.