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| Mathematical Problem Solving  |
| Process Dimensions | 4 | 3 | 2 | 1 |
| Conceptual Understanding | Understands all parts of the problem and solves the problem correctly.Effectively uses highly efficient strategy(ies). Multiple representations are used.  | Understands all of the mathematics in the problem. Attempts all parts of the main problem.Picks an appropriate strategy. Solves the problem through skill and mathematical understanding, not chance. | Understands some of the mathematics in the problem. Completes part of the problem. Attempts a sensible strategy, but it is not sufficient to solve the entire problem.Strategy may have been selected by chance. | Doesn’t understand the problem. Unable to ‘set up’ the problem. Work does not show a strategy or strategy used does not work for this problem. |
| Mathematical Practices | Shows in-depth understanding and insight of essential mathematical practice(s), i.e. asks if solution makes sense, makes sense of quantities and relationships, makes use of estimation and computes accurately, evaluates reasonableness, etc. | Work demonstrates solid mathematical thinking and the ability to successfully use mathematical practices. See Level 4 descriptors.  | Includes an incomplete response that demonstrates progress towards mathematical practice .See Level 4 descriptors  | Shows little or no progress towards demonstrating the mathematical practices, i.e. does not recognize or make use of pattern, cannot connect a mathematical equation to a described situation, is not able to justify or explain, etc.  |
| Computation and Execution | The solution is correct and enhanced by extensions, connections, generalizations, and/or asking new questions leading to a new problem. | The solution given is correct, mathematically justified, and supported by the work. | The solution given is incorrect due to minor errors or a correct answer is present but the work contains minor errors. The solution may be partially complete. | The solution given is incorrect or incomplete.The solution may be correct but in conflict with or not supported by the work shown.  |
| Mathematical Communication  |
| Process Dimensions | 4 | 3 | 2 | 1 |
| Completeness | Provides a complete explanation including connections to prior mathematical learning and/or patterns discovered about the problem. | Explains almost all steps taken to solve the problem. Explains why equations, expression, calculations, and /or other representations were used.  | Includes an explanation that may be incomplete. Includes calculations or representations that may be incomplete.  | Provides little or no explanation. Provides little or no calculation or representation.  |
| Clarity | Mathematical vocabulary is well articulated and effectively used. The answer is very readable and organization makes the ideas especially clear. A sketch or diagram is included to enhance clarity. Labeling is correct.  | Adequate mathematical vocabulary is used correctly. The student explains all steps in such a way that another student would understand. Grammar, spelling, and organization do not decrease readability. Answer is labeled correctly.  | Mathematical vocabulary is limited or used incorrectly. The explanation is not entirely clear. Spelling, grammar, and/or organization make the explanation difficult to understand. Labeling may be incorrect. | Mathematical vocabulary is not present. The explanation is very difficult to read and follow. Labeling is incorrect or missing.  |
| Evaluation and Reflections | The solution is justified completely including: using a different method, evaluating effectiveness, considering other possibilities and/or considering other solutions. | The solution is stated within the context of the task and the reflection justifies the solution through use of: mathematical concepts, strategies, calculations, and/or reasonableness.  | The solution is not stated clearly within the context of the task and/or the justification is only partially supported by reviewing: mathematical concepts, strategies, calculations, and/or reasonableness.  | The solution is not clearly identified. The justification is underdeveloped.  |