# Math Portfolio Rubric

<table>
<thead>
<tr>
<th>Math</th>
<th>Exceeding</th>
<th>Meeting the Standard</th>
<th>Approaching</th>
<th>Initial Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem Solving</strong></td>
<td>- The problem solving strategies selected reflect a deep and clear understanding of the mathematical challenge/problem</td>
<td>- The problem solving strategies selected reflect an understanding of the mathematical challenge/problem</td>
<td>- The problem solving strategies selected reflect a partial understanding of the mathematical challenge/problem</td>
<td>- The problem solving strategies selected reflect a weak understanding of the mathematical challenge/problem</td>
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<td></td>
<td>- The student selects and evaluates multiple appropriate solution strategies to arrive at a correct solution or approach to the problem.</td>
<td>- The student selects and evaluates one appropriate solution strategy to arrive at a correct solution or approach to the problem.</td>
<td>- The student selects a reasonable initial solution strategy but cannot proceed towards a correct approach or solution.</td>
<td>- The student selects an incorrect or inappropriate solution strategy and cannot proceed towards a correct approach or solution.</td>
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<td>- The student accurately solves the problem, states correct conclusions and uses appropriate strategies to verify the solution with respect to both the mathematics and the given context.</td>
<td>- The student solves the problem with minor computational errors, states correct conclusions and uses appropriate strategies to verify the solution with respect to the mathematics.</td>
<td>- The student reaches a partially correct solution of the problem and is unable to identify errors in the solution with respect to the mathematics and/or given context.</td>
<td>- The student reaches an incorrect or incomplete solution of the problem and is unable to identify errors in the solution with respect to the mathematics and/or given context.</td>
</tr>
</tbody>
</table>

□ Significant evidence of these indicators are not present in the work sample

| Logical Reasoning            | - The student makes a clear and specific conjecture by generalizing from a pattern of observations, confirms the conjecture by constructing a logical mathematical argument or proof. | - The student makes a conjecture by generalizing from a pattern of observations and confirms the conjecture by constructing a logical mathematical argument or proof. | - The student makes an unsupported conjecture and attempts to confirm the conjecture by constructing a logical mathematical argument or proof. | - The student does not make a conjecture and/or fails to confirm the conjecture by constructing a logical mathematical argument or proof. |
|                              | - The student develops, explains and justifies decisions, concepts, procedures, and relationships in a logically clear, organized sequenced way, using visual representations when appropriate. | - The student develops and explains concepts, procedures, and relationships in a logically clear, organized sequenced way, using visual representations when appropriate. | - The student develops concepts, procedures and relationships, but there are missteps in organization, logic or sequencing. | - The student partially develops concepts, procedures and relationships, and there are missteps in organization, logic or sequencing. |

□ Significant evidence of these indicators are not present in the work sample

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<table>
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<tr>
<th>Connections</th>
<th>Communication</th>
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| - The student shows many connections between multiple representations of the problem and uses them to support mathematical arguments.  
 - The student develops a general strategy for solving a family of problems.  
 - The student uses the mathematics of the given situation as well as outside research to identify specific implications within a global context.  
 - The student presents work in a clear, detailed, and persuasive manner.  
 - The student accurately uses mathematical terms, symbols, and conventions, together with academic language, to express mathematical ideas.  
 - The student’s presentation of the final product goes beyond all project requirements. | - The student shows many connections between multiple representations of the problem.  
 - The student develops clear connections between the problem and similar problems.  
 - The student uses the mathematics of the given situation to identify specific implications within a global context.  
 - The student presents work in a clear and detailed manner, using diagrams, graphs, symbols & words.  
 - The student accurately uses mathematical terms, symbols, and conventions, together with everyday language, to express mathematical ideas.  
 - The student’s presentation of the final product meets all project requirements. |
| - Significant evidence of these indicators are not present in the work sample | - The student shows some connections between multiple representations of the problem.  
 - The student makes limited connections between the problem and similar problems.  
 - The student uses the mathematics of the given situation to identify general implications within a global context.  
 - The student presents work that is clear but not always detailed.  
 - The student accurately uses mathematical terms, symbols, and conventions, together with everyday language, to communicate mathematical ideas, though conventions of mathematical language are not always used.  
 - The student’s presentation of the final product meets most project requirements. |
| - The student shows multiple representations of the problem.  
 - The student makes inaccurate connections are made between the problem and similar problems.  
 - The student identifies general implications within a global context without the support of mathematics.  
 - The student presents work that is not clear or detailed.  
 - The student primarily uses everyday language to communicate mathematical ideas.  
 - The student’s presentation of the final product meets some project requirements. |