

## Mathematics Scoring Rubric – Problem-Solving (M4)

**Problem-Solving:** Understands problem/task, plan/strategy, computation/solution

<b>4</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• shows complete understanding of the problem</li> <li>• identifies, relates, and uses all important components of the problem</li> <li>• performs computations completely and correctly but may make one minor error (computation, transposition<sup>1</sup>, or transcription<sup>2</sup>)</li> <li>• uses an appropriate strategy that should lead to a correct solution</li> </ul>
<b>3</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• shows understanding of the problem</li> <li>• identifies, relates, and uses most of the important components of the problem</li> <li>• performs computations that are generally correct but may make some minor errors (computation, transposition<sup>1</sup>, or transcription<sup>2</sup>)</li> <li>• uses an appropriate strategy that should lead to a reasonable solution</li> </ul>
<b>2</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• shows some understanding of the problem</li> <li>• identifies, relates, and uses some important components of the problem</li> <li>• performs computations that contain major computational errors</li> <li>• shows some evidence of a strategy to solve the problem</li> </ul>
<b>1</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• shows limited to no understanding of the problem</li> <li>• fails to identify, relate, or use important components of the problem</li> <li>• uses an inappropriate strategy for solving the problem</li> <li>• places too much emphasis on unrelated components of the problem</li> <li>• attempts an answer</li> </ul>
<b>B</b>	<ul style="list-style-type: none"> <li>• Blank (no attempt or completely erased answer)</li> </ul>
<b>A</b>	<ul style="list-style-type: none"> <li>• Correct answer only (no work shown)</li> </ul>
<b>I</b>	<ul style="list-style-type: none"> <li>• Incorrect answer only (no work shown)</li> </ul>

**1 Transposition:** change the usual order of letters, words, or numbers  
(e.g., 35/53, triangle/traingle)

**2 Transcription:** copying from one form of recorded documentation to another  
(e.g., human error indicating 55 when you meant 44)

## Mathematics Scoring Rubric – Communication (M4)

**Communication:** Explanation, math terminology/notation, and details  
(e.g., use of graphs, tables, charts, figures, diagrams, numbers, symbols)

<b>C4</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• communicates a solution that is complete, logical, well- organized, and related to the problem using words, pictures, and/or symbols</li> <li>• makes explicit the strategy, computations, and ideas</li> <li>• uses math terminology and/or notation that is appropriate and accurate</li> </ul>
<b>C3</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• communicates a solution that is reasonable and organized using words, pictures and/or symbols</li> <li>• provides a solution where the strategy, some computations and/or some ideas have to be inferred</li> <li>• uses math terminology and/or notation that is appropriate, but may have minor errors in notation</li> </ul>
<b>C2</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• communicates a solution that is poorly organized/hard to follow using words, pictures and/or symbols</li> <li>• provides a solution where much of the strategy, many computations, and/or many ideas have to be inferred</li> <li>• uses math terminology and/or notation incorrectly</li> </ul>
<b>C1</b>	<p>The student:</p> <ul style="list-style-type: none"> <li>• Communicates a minimal solution using words, pictures and/or symbols</li> <li>• provides a solution where the strategy, computation and/or idea cannot be inferred</li> <li>• does not use math terminology and/or notation</li> </ul>
<b>CB</b>	<ul style="list-style-type: none"> <li>• Blank (no attempt or completely erased answer)</li> </ul>
<b>CA</b>	<ul style="list-style-type: none"> <li>• Correct answer only (no work shown)</li> </ul>
<b>CI</b>	<ul style="list-style-type: none"> <li>• Incorrect answer only (no work shown)</li> </ul>

**Note:** Students may be able to demonstrate solid communication of their mathematical thinking even though their answer may not reflect a correct understanding of the problem.