



**Mathematics Problem Solving Rubric**  
**Shanghai American School**  
**Shanghai China**



	<b>Conceptual Understanding</b> <i>Interpreting the concepts of the task and translating them into mathematics</i>	<b>Processes &amp; Strategies</b> <i>Choosing strategies that can work, and then carrying out the strategies chosen</i>	<b>Verification</b> <i>In addition to solving the task, identifiable evidence of a second look at the concepts, strategies, calculations to defend a solution</i> <b>DEFEND!</b>	<b>Communication</b> <i>Using pictures, symbols, and/or vocabulary to convey the path to the identifiable solution</i> <b>THE CONNECTING PATH!</b>
<b>6</b>	The translation of the task is enhanced through connections and/or extensions to other mathematical ideas	Elegant, complex and/or enhanced mathematical processes/strategies used to solve the task are completed	The review is related to the task, and enhanced, possibly by using a different perspective as the defense	The connecting path is enhanced (e.g., graphics, examples) allowing the reader to move easily and make connections from one thought to another
<b>5</b>	The translation of the task into mathematical concepts is thoroughly developed	Pictures, models, diagrams, and/or symbols used to solve the task are thoroughly developed	The review is a thoroughly developed look at the concepts, strategies, and calculations in relation to the task.	The path connecting concepts, strategies, and/or verification to the identified solution is thoroughly developed
<b>4</b>	The translation of the task into adequate mathematical concepts using relevant information is completed	Pictures, models, diagrams, and/or symbols used to solve the task are complete	The review is completed (concepts, strategies, and calculations), and supports a solution	The path connecting the concepts, strategies and/or verification to the identified solution is complete
<b>3</b>	The translation of the major concepts of the task is partially completed and/or partially displayed	Pictures, models, diagrams, and/or symbols used to solve the task may be only partially useful and/or partially recorded	The review is partially completed, partially recorded, and/or partially effective	The path connecting the concepts, strategies, and/or verification to the solution is partially complete and/or partially displayed with significant gaps that have to be inferred
<b>2</b>	The translation of the task is underdeveloped, sketchy and/or may be flawed	Pictures, models, diagrams, and/or symbols used to solve the task are underdeveloped or sketchy	The review is underdeveloped or sketchy (e.g., focuses <u>only</u> on its reasonableness)	The path connecting concepts, strategies and/or verification toward a solution is underdeveloped or sketchy
<b>1</b>	The translation of the task uses inappropriate concepts or is minimal or not evident	Pictures, models, diagrams, and/or symbols used to solve the task are ineffective, minimal, not evident, or may conflict with their solution.	The review is ineffective, minimal, inappropriate and/or not evident	The path connecting concepts, strategies and/or verification toward a solution is ineffective, minimal or not evident.

**Accuracy:**

**5)** The answer given is mathematically justifiable and supported by the work

**4)** The answer given may contain a minor error, but no additional instruction appears necessary

**1)** The answer given is incorrect, incomplete or correct but conflicts with the work

