

IQA Implementation of the Task Rubric

4	<p>Students engaged in exploring and understanding the nature of mathematical concepts, procedures, or relationships.</p> <p>There is <i>explicit evidence</i> of students' reasoning and understanding. For example, students may have:</p> <ul style="list-style-type: none"> • Solved a genuine, challenging problem for which students' reasoning is evident in their work on the task • Developed an explanation for why formulas or procedures work • Identified patterns and formed and justified generalizations based on these patterns • Made conjectures and supported conclusions with mathematical evidence • Made explicit connections between representations, strategies, or mathematical concepts and procedures • Followed a prescribed procedure in order to explain or illustrate a mathematical concept, process, or relationship
3	<p>Students engaged in complex thinking or in creating meaning for mathematical concepts, procedures, or relationships. However, the implementation does not warrant a level 4 because there were <i>no explicit explanations or written work</i> to indicate students' reasoning and understanding. Students may have:</p> <ul style="list-style-type: none"> • Engaged in problem solving, but for a task that required minimal cognitive challenge (for example, the problem was easy to solve), or students' reasoning is not evident in their work on the task • Explored why formulas or procedures work but did not provide explanations • Identified patterns but did not form or justify generalizations • Made conjectures but did not provide mathematical evidence or explanations to support conclusions • Used multiple strategies or representations but connections between different strategies or representations were not explicitly evident • Followed a prescribed procedure to make sense of a mathematical concept, process, or relationship, but did not explain or illustrate the underlying mathematical ideas or relationships
2	<p>Students engaged in using a procedure that either was specifically called for or its use was evident based on prior instruction, experience, or placement of the task.</p> <ul style="list-style-type: none"> • There was little ambiguity about what needed to be done and how to do it. • Students did not make connections to the concepts or meaning underlying the procedure being used. • The focus of the implementation appeared to be on producing correct answers rather than developing mathematical understanding (for example, applying a specific problem-solving strategy or practicing a computational algorithm).
1	<p>Students engaged in memorizing; note taking; or reproducing facts, rules, formulas, or definitions. Students did not make connections to the concepts or meanings that underlie the facts, rules, formulas, or definitions being memorized or reproduced.</p>
0	<p>Students did not engage in mathematical activity.</p>

Source: Adapted from Boston, 2017.