Using the Rubric:

Review each row corresponding to a mathematical practice. Use the boxes to mark the appropriate description for your task or teacher action. The task descriptors can be used primarily **as** you develop your lesson to make sure your classroom tasks help cultivate the mathematical practices. The teacher descriptors, however, can be used **during** or **after** the lesson to evaluate how the task was carried out. The column titled "proficient" describes the expected norm for task and teacher action while the column titled "exemplary" includes all features of the proficient column and more. A teacher who is exemplary is meeting criteria in **both** the proficient and exemplary columns.

PRACTICE	NEEDS IMPROVEMENT	EMERGING (teacher does thinking)	PROFICIENT (teacher mostly models)	EXEMPLARY (students take ownership)
Make sense of problems and persevere in solving them.	Task: ❑ Is strictly procedural. ❑ Does not require students to check solutions for errors. Teacher: ❑ Does not allow for wait time; asks leading questions to rush through task. ❑ Does not encourage students to individually process the tasks. ❑ Is focused solely on answers rather than processes and reasoning.	Task: ❑ Is overly scaffolded or procedurally "obvious." ❑ Requires students to check answers by plugging in numbers. Teacher: ❑ Allots too much or too little time to complete task. ❑ Encourages students to individually complete tasks, but does not ask them to evaluate the processes used. ❑ Explains the reasons behind procedural steps. ❑ Does not check errors publicly.	Task: ❑ Is cognitively demanding. ❑ Has more than one entry point. ❑ Requires a balance of procedural fluency and conceptual understanding. ❑ Requires students to check solutions for errors using one other solution path. Teacher: ❑ Allows ample time for all students to struggle with task. ❑ Expects students to evaluate processes implicitly. ❑ Models making sense of the task (given situation) and the proposed solution.	Task: ❑ Allows for multiple entry points and solution paths. ❑ Requires students to defend and justify their solution by comparing multiple solution paths. Teacher: ❑ Differentiates to keep advanced students challenged during work time. ❑ Integrates time for explicit meta-cognition. ❑ Expects students to make sense of the task and the proposed solution.

PRACTICE	NEEDS IMPROVEMENT	EMERGING (teacher does thinking)	PROFICIENT (teacher mostly models)	EXEMPLARY (students take ownership)
Reason abstractly and quantitatively.	Task: ❑ Lacks context. ❑ Does not make use of multiple representations or solution paths. Teacher: ❑ Does not expect students to interpret representations. ❑ Expects students to memorize procedures with no connection to meaning.	Task: ❑ Is embedded in a contrived context. Teacher: ❑ Expects students to model and interpret tasks using a single representation. ❑ Explains connections between procedures and meaning.	Task: ❑ Has realistic context. ❑ Requires students to frame solutions in a context. ❑ Has solutions that can be expressed with multiple representations. Teacher: ❑ Expects students to interpret and model using multiple representations. ❑ Provides structure for students to connect algebraic procedures to contextual meaning. ❑ Links mathematical solution with a question's answer.	Task: ❑ Has relevant realistic context. Teacher: ❑ Expects students to interpret, model, and connect multiple representations. ❑ Prompts students to articulate connections between algebraic procedures and contextual meaning.
Construct viable arguments and critique the reasoning of others.	Task: ❑ Is either ambiguously stated or too easy. Teacher: ❑ Does not ask students to present arguments or solutions. ❑ Expects students to follow a given solution path without opportunities to make conjectures.	Task: ❑ Is not at the appropriate level. Teacher: ❑ Does not help students differentiate between assumptions and logical conjectures. ❑ Asks students to present arguments but not to evaluate them. ❑ Allows students to make conjectures without justification.	Task: ❑ Avoids single steps or routine algorithms. Teacher: ❑ Identifies students' assumptions. ❑ Models evaluation of student arguments. ❑ Asks students to explain their conjectures.	Teacher: ❑ Helps students differentiate between assumptions and logical conjectures. ❑ Prompts students to evaluate peer arguments. ❑ Expects students to formally justify the validity of their conjectures.

PRACTICE	NEEDS IMPROVEMENT	EMERGING (teacher does thinking)	PROFICIENT (teacher mostly models)	EXEMPLARY (students take ownership)
Model with mathematics.	Task: ❑ Requires students to identify variables and to perform necessary computations. Teacher: ❑ Identifies appropriate variables and procedures for students. ❑ Does not discuss appropriateness of model.	Task: ❑ Requires students to identify variables and to compute and interpret results. Teacher: ❑ Verifies that students have identified appropriate variables and procedures. ❑ Explains the appropriateness of model.	Task: ❑ Requires students to identify variables, compute and interpret results, and report findings using a mixture of representations. ❑ Illustrates the relevance of the mathematics involved. ❑ Requires students to identify extraneous or missing information. Teacher: ❑ Asks questions to help students identify appropriate variables and procedures. ❑ Facilitates discussions in evaluating the appropriateness of model.	Task: ❑ Requires students to identify variables, compute and interpret results, report findings, and justify the reasonableness of their results and procedures within context of the task. Teacher: ❑ Expects students to justify their choice of variables and procedures. ❑ Gives students opportunity to evaluate the appropriateness of model.
Use appropriate tools strategically.	Task: ❑ Does not incorporate additional learning tools. Teacher: ❑ Does not incorporate additional learning tools.	Task: ❑ Lends itself to one learning tool. ❑ Does not involve mental computations or estimation. Teacher: ❑ Demonstrates use of appropriate learning tool.	Task: ❑ Lends itself to multiple learning tools. ❑ Gives students opportunity to develop fluency in mental computations. Teacher: ❑ Chooses appropriate learning tools for student use. ❑ Models error checking by estimation.	Task: ❑ Requires multiple learning tools (i.e., graph paper, calculator, manipulatives). ❑ Requires students to demonstrate fluency in mental computations. Teacher: ❑ Allows students to choose appropriate learning tools. ❑ Creatively finds appropriate alternatives where tools are not available.

PRACTICE	NEEDS IMPROVEMENT	EMERGING (teacher does thinking)	PROFICIENT (teacher mostly models)	EXEMPLARY (students take ownership)
Attend to precision.	Task: ❑ Gives imprecise instructions. Teacher: ❑ Does not intervene when students are being imprecise. ❑ Does not point out instances when students fail to address the question completely or directly.	Task: ❑ Has overly detailed or wordy instructions. Teacher: ❑ Inconsistently intervenes when students are imprecise. ❑ Identifies incomplete responses but does not require student to formulate further response.	Task: ❑ Has precise instructions. Teacher: ❑ Consistently demands precision in communication and in mathematical solutions. ❑ Identifies incomplete responses and asks student to revise their response.	Task: ❑ Includes assessment criteria for communication of ideas. Teacher: ❑ Demands and models precision in communication and in mathematical solutions. ❑ Encourages students to identify when others are not addressing the question completely.
Look for and make use of structure.	Task: ❑ Requires students to automatically apply an algorithm to a task without evaluating its appropriateness. Teacher: ❑ Does not recognize students for developing efficient approaches to the task. ❑ Requires students to apply the same algorithm to a task although there may be other approaches.	Task: ❑ Requires students to analyze a task before automatically applying an algorithm. Teacher: ❑ Identifies individual students' efficient approaches, but does not expand understanding to the rest of the class. ❑ Demonstrates the same algorithm to all related tasks although there may be other more effective approaches.	Task: ❑ Requires students to analyze a task and identify more than one approach to the problem. Teacher: ❑ Facilitates all students in developing reasonable and efficient ways to accurately perform basic operations. ❑ Continuously questions students about the reasonableness of their intermediate results.	Task: ❑ Requires students to identify the most efficient solution to the task. Teacher: ❑ Prompts students to identify mathematical structure of the task in order to identify the most effective solution path. ❑ Encourages students to justify their choice of algorithm or solution path.

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Look for and express regularity in repeated reasoning.	Task: ❑ Is disconnected from prior and future concepts. ❑ Has no logical progression that leads to pattern recognition. Teacher: ❑ Does not show evidence of understanding the hierarchy within concepts. ❑ Presents or examines task in isolation.	Task: ❑ Is overly repetitive or has gaps that do not allow for development of a pattern. Teacher: ❑ Hides or does not draw connections to prior or future concepts.	Task: ❑ Reviews prior knowledge and requires cumulative understanding. ❑ Lends itself to developing a pattern or structure. Teacher: ❑ Connects concept to prior and future concepts to help students develop an understanding of procedural shortcuts. ❑ Demonstrates connections between tasks.	Task: ❑ Addresses and connects to prior knowledge in a non-routine way. ❑ Requires recognition of pattern or structure to be completed. Teacher: ❑ Encourages students to connect task to prior concepts and tasks. ❑ Prompts students to generate exploratory questions based on current task. ❑ Encourages students to monitor each other's intermediate results.