

Algebra Problem of the Week Scoring Rubric for *Math Club Mystery*

For each category, choose the level that *best describes* the student's work.

	Novice	Apprentice	Practitioner	Expert
Problem Solving				
Interpretation	Shows understanding of few of the criteria listed in the Practitioner column.	Shows understanding of most but not all of the criteria listed in the Practitioner column.	Understands that: <ul style="list-style-type: none"> the 28 people are students, teachers or parents the cost of tickets is \$3 for students and \$7 for adults the total cost of the tickets for students, parents and teachers is \$108. the goal is to represent the situation in a way that will allow the determination of how many students, adults and teachers went on the trip 	Solves the main problem and the Extra correctly, and is at least a Practitioner in Strategy, or discusses possible interpretations of the results, leading to the conclusion that there were either 2 teachers and 4 parents or 1 teacher and 5 parents.
Strategy <i>(based on the solver's interpretation of the problem)</i>	Has no ideas that will lead them toward a successful solution. Has not written enough to tell what strategy they might have used.	Picks an incorrect strategy, or relies on luck to get the right answer. (Might use a table or guess and check to solve the problem but does not use an algebraic representation to confirm his/her answer.)	Picks a sound strategy—success achieved through algebraic skill, not luck. Uses an appropriate strategy, like the substitution or elimination method for solving simultaneous equations, to find out how many students are on the trip and how many adults.	Might solve the problem twice, once using three variables and once using two variables, or once using two variables and once using one variable.
Accuracy <i>(based on the chosen strategy)</i>	Has made many errors.	Has made several mistakes or misstatements.	Makes few or no mistakes of consequence and uses largely correct vocabulary.	[Generally not possible – can't be more accurate than Practitioner.]
Communication				
Completeness <i>(an incorrect solution can be complete)</i>	Has written very little that tells or shows how they found their answer.	Submitted explanation without work or work without explanation. Leaves out enough details that another student couldn't follow or learn from the explanation. Does not define variable(s).	Explains all of the important steps taken to solve the problem. Shows equations, formulas, and calculations used and explains the rationale behind them. Defines variable(s).	Adds in useful extensions and further explanation of some of the ideas involved The additions are helpful, not just "I'll say more to get more credit."
Clarity <i>(incomplete and incorrect solutions can be explained clearly)</i>	Explanation is very difficult to read and follow.	Explanation isn't entirely unclear, but would be hard for another student to understand. Explanation is long and is written entirely in one paragraph. Explanation contains many spelling and typing errors.	Explains the steps that they <i>do</i> explain in such a way that another student would understand (needn't be complete to be clear). Makes an effort to check formatting, spelling, and typing (a few errors are okay).	Format and organization make ideas exceptionally clear. Answer is very readable and appealing.
Reflection <i>(see the items in the gray box)</i>	Does nothing reflective.	Does one reflection.	Does two reflections.	Does three or more reflections or does an exceptional job with two.
	<i>The items in the columns to the right are considered reflective, and might be in the solution or comment:</i>	<ul style="list-style-type: none"> Revises and improves a previous submission. Checks the answer using a different method. Explains a hint she/he would give another student. 	<ul style="list-style-type: none"> Reflects on the reasonableness of the answer. Connects the problem to prior knowledge/experience. Describes any errors made and how she/he found and corrected them. States any assumptions made in the solving process. Described something learned from the problem. 	<ul style="list-style-type: none"> Comments on <i>and</i> explains the ease or difficulty of the problem. Explains where she/he is stuck. Summarizes the process used. Describes any "aha!" moments.