Common Core State Standards for Mathematics
Domain: Reasoning with Equations and Inequalities
Systems of Equations (A-REI.5-9)
High School

		Example Activities
Score 4.0	**In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard. The student will:** • find the inverse of a matrix if it exists and use it to solve systems of linear equations (A-REI.9) • solve systems of equations in three variables. (A-REI.7) • solve systems of equations in three variables using matrices (A-REI.9)	Students are provided with equations in three variables. Students work individually to correctly represent the equations in Matrix form. The teacher should conduct a formative check and provide immediate, specific feedback to the students before requiring students to solve. Once the students have correctly represented the equations as matrices, the students use technology to determine the solution of the matrix with three variables. The teacher should conduct a formative check and provide immediate, specific feedback to the students before requiring students to solve. Finally, for each system solved, the student must interpret the meaning of the solution within the context of the system.
	3.5 In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
Score 3.0	**The student will:** • prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. (A-REI.5) • solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically (A-REI.7) • represent a system of linear equations as a single matrix equation in a vector variable (A-REI.8) **The student exhibits no major errors or omissions.**	Students are placed in groups of three. Each student is assigned a role {graphical, tabular or algebraic} and are given multiple sets of quadratic/linear equations in equation form. Each student must use their assigned method to determine the solution for each set. The students are to ensure agreement within the group as to the correct solutions for each set. The teacher should not provide solutions to individual students, students should be required to confer and collaborate within their group until all students agree upon the same solutions for each set of equations. Once students agree then all three representations for each set will be submitted to the teacher as a formative check the teacher will then provide immediate, specific, constructive feedback to each group regarding the accuracy of their solutions.
	2.5 No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content	

Score 2.0	**There are no major errors or omissions regarding the simpler details and processes as the student will:**
	• recognize or recall specific vocabulary, such as:
	  ○ system of equations
	• perform basic processes, such as:
	  ○ solve systems of linear equations (focusing on pairs of linear equations in two variables) exactly and approximately (e.g., with graphs) (A-REI.6)
	
	However, the student exhibits major errors or omissions regarding the more complex ideas and processes.
		Retrieval – Recognizing
		
		Students are seated in such a way that they can work individually and so that the teacher can see all students as they work. Teacher displays graphs or equations of linear systems in two variables one at a time. The students are required to determine the solution to the systems (approximately for the graphs and exactly for the equations). Each student is to record the solution on an individual white board and display the solution to the teacher. The teacher provides immediate, specific, verbal feedback as to the accuracy of each solution for each student. This process is repeated for each set of graphs or equations provided by the teacher.

	1.5	Partial knowledge of the 2.0 content but major errors or omissions regarding the 3.0 content	
Score 1.0	**With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.**		
	0.5	With help, a partial understanding of the 2.0 content but not the 3.0 content	
Score 0.0	**Even with help, no understanding or skill demonstrated.**		