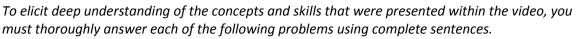
Name: _ Period:

This activity is to be done after watching a MATHguide video at: <u>https://www.youtube.com/watch?v=qNddYP4puh8</u>

Use these resources, if necessary.

Solving Systems of Equations: <u>http://www.mathguide.com/lessons/Systems.html</u> Reduced Row Echelon Form (RREF): <u>https://www.youtube.com/watch?v=b7b91ZYqsHE</u> Chemistry Problems: <u>http://www.mathguide.com/lessons/Word-Chemistry.html</u>



A table was used to organize information that was provided within the word problem.
a) Explain what the top of each column represents.

b) Explain what the left side of each row represents.

- 2) Before placing the percent of a solution into a table -- like 30% -- what first needed to be done to the percent? Explain.
- 3) The columns of the table are arranged so that, once completely filled, we can multiply from left-to-right. Explain why this is mathematically valid to obtain the amount of acid in a solution.
- 4) During the video the equation "x + y = 200" was obtained. Explain what it means and why it is mathematically valid.
- 5) During the video the equation "0.30x + 0.10y = 30" was obtained. Explain what it means and why it is mathematically valid.



- 6) Imagine a different problem such that two different solutions were being mixed. If a 10% acid solution were to be mixed with a 20% acid solution, what would be a reasonable expectation for the percentage of acid of the mixture? Choose one of the following answers and defend it using a thorough rationale.
 - a) The mixture must be less than 10% in concentration.
 - b) The mixture must be between 10% and 20% in concentration.
 - c) The mixture must be greater than 20% in concentration.

For each of the problems below, go to http://www.mathquide.com/cgi-bin/quizmasters/Chemistry2.cgi and do a problem by a) determining the given information, b) filling in the chemistry table, c) constructing two systems of equations, d) solving the system of equations, and e) writing a sentence that describes the solution.

7)	Weak Solution:	8)	Weak Solution:	
	Strong Solution:		Strong Solution:	-
	Mixture:		Mixture:	-

	Volume	Percent	Amount of Acid
Strong Solution			
Weak Solution			
Total Mixture			

System of equations:

Strong Solutio	on:			
Mixture:				
		-		
	Volume	Percent	Amount of Acid	
<u>a</u> .				

		or nord
Strong Solution		
Weak Solution		
Total Mixture		

System of equations:

Solution (Sentence):

Solution (Sentence):