Unit 1 Day 7 - Row Reduction, Part 2 Classwork Name _____

The systems of equations given below have already been written as an augmented matrix. Solve these systems. Show all of your work including a description what you did on each step.

1. $\left[\begin{array}{cc|c} 2 & 4 & 0 \\ 3 & 5 & -2 \end{array}\right]$

2. $\left[\begin{array}{cc|c} 4 & -2 & 2 \\ 1 & 3 & 11 \end{array}\right]$

3. Solve the following problem by writing a system of equations (be sure to identify your variables) and solving the system of equations using matrix row-reduction.

   Two of Carlos' and Clarita's friends are purchasing school supplies at the bookstore. Stan buys three packages of pencils and two markers for $4.75. Jan buys six packages of pencils and five markers for $10.00.

4. The following matrix represents a system of dependent functions (both equations in the system represent the same line). What happens when you try to row-reduce the 2×3 matrix that represents a dependent system?

$$\left[\begin{array}{cc:c} 3 & 4 & 3 \\ 6 & 8 & 6 \end{array}\right]$$

5. The following matrix represents a system of inconsistent functions (both equations in the system represent parallel lines). What happens when you try to row-reduce the 2×3 matrix that represents an inconsistent system?

$$\left[\begin{array}{cc:c} 2 & -4 & -15 \\ 1 & -2 & -14 \end{array}\right]$$

Solve

6. $\left[\begin{array}{ccc:c} 4 & -2 & 1 & 3 \\ 2 & 1 & -1 & 1 \\ 3 & -1 & 2 & 7 \end{array}\right]$ Goal $\left[\begin{array}{ccc:c} 1 & 0 & 0 & x \\ 0 & 1 & 0 & y \\ 0 & 0 & 1 & z \end{array}\right]$