

Name: _____ / 10

There are 10 points possible on this quiz. No aids (book, calculator, etc.) are permitted. **Show all work for full credit.**

1. (6 points) Put the system of equations into row echelon form. You may convert to matrix form if you like, but your answer must be in the form of a system of equations. You do not need to find a solution to the system. You must show your elementary row operations.

$$\begin{cases} x_1 + 2x_2 - x_3 + x_4 = 1 \\ 2x_1 + 6x_2 - 2x_3 - 2x_4 = 1 \\ 3x_3 + x_4 = 3 \\ -x_1 + 2x_2 + x_3 + 2x_4 = 2 \end{cases}$$

2. (3 points) The system of linear equations below is in echelon form. Write the solution set of the system in vector form.

$$\begin{cases} x - 2y + z = 8 \\ y - 4z = 0 \end{cases}$$

3. (1 points) Give an example of a system of equations which has no solution.