

Math 4133 - Linear Algebra

Quiz #1 - 2014.01.17

Solutions

1. The following augmented matrix represents a system of equations now in reduced form. Write down the solution to this system of equations.

$$\begin{bmatrix} 1 & 0 & 0 & -2 \\ 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & 4 \end{bmatrix}$$

If we assume the variables x , y , and z , the solution is $(x, y, z) = (-2, 3, 4)$.

2. State the dimension of the solution to the following system of equations.

$$\begin{cases} 3x - 2y = -1 \\ -9x + 6y = 3 \end{cases}$$

Since the second equation is simply a multiple of the first row, the solution is a line and thus has dimension one.