Linear Algebra
Quiz 2

Name:_____

You have 10 minutes to complete this quiz. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

1. Explain why any homogeneous system is consistent.

$A\mathbf{x} = \mathbf{0}$ is consistent since $\mathbf{x} = \mathbf{0}$ is a solution.

2. Use Gaussian elimination to find the inverse of $A = \begin{bmatrix} 1 & -2 & -3 \\ 0 & 2 & 1 \\ -1 & 1 & 2 \end{bmatrix}$.

You should transform $[A|I]$ to $\left[I\middle|A^{-1}\right]$. The final answer is $A^{-1} = \begin{bmatrix} -3 & -1 & -4 \\ 1 & 1 & 1 \\ -2 & -1 & -2 \end{bmatrix}$.