Name: _____

Quiz 8
Math 2250, Fall 2015 **November 4, 2015** **R. Bruner**

1. For each of the following, determine whether it is a subspace of $\mathbf{R}^3$ or not. Explain why it is or is not a subspace.

$$(a)\left\{\begin{bmatrix} x \\ y \\ z \end{bmatrix} \mid x = y + 1\right\} \qquad (b)\left\{\begin{bmatrix} x \\ y \\ z \end{bmatrix} \mid x = y + z\right\}$$

2. Find a subset of $\left\{\begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ -1 \\ 1 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix}\right\}$ which forms a basis for the subspace spanned by these vectors.