

Name \_\_\_\_\_ Linear Algebra, Quiz 8

1) Below are two vectors. Determine whether or not they are orthogonal. (2 points)

$$\vec{u} = \begin{bmatrix} 1 \\ 0 \\ 3 \\ 0 \end{bmatrix} \quad \vec{v} = \begin{bmatrix} -3 \\ 2 \\ 1 \\ -4 \end{bmatrix}$$

2) Find  $\begin{bmatrix} 0 & 0 & 1 \\ 0 & 1 & 2 \\ 0 & 0 & -1 \end{bmatrix}^{50}$ . (8 points)