MATH 54 – QUIZ 7

PEYAM RYAN TABRIZIAN

Name:_____

Instructions: You have 15 minutes to take this quiz, for a total of 10 points. May your luck be orthonormal (and happy spring break)!

1. *(7 points)* Let $W = Span\{\mathbf{u}, \mathbf{v}\}$, where $\mathbf{u} = \begin{bmatrix} 1 \\ 0 \\ -2 \\ 2 \end{bmatrix}$, $\mathbf{v} = \begin{bmatrix} 1 \\ -1 \\ 0 \\ 4 \end{bmatrix}$.

   Find the orthogonal projection of $\mathbf{x} = \begin{bmatrix} 3 \\ -1 \\ 2 \\ 1 \end{bmatrix}$ on W.

(TURN PAGE)

Date: Thursday, March 19, 2015.

2. *(3 points)* Given a vector $\mathbf{x}$ and a subspace W, find a formula for the orthogonal projection of $\mathbf{x}$ on $W^{\perp}$.

   Hint: A picture might help!