

MATH 335 Quiz 7

Name: _____

Show all work. Can use Matlab to check but show how you got there. 5 points each.

1) Suppose \mathbf{y} is orthogonal to the vectors \mathbf{u} and \mathbf{v} . Show \mathbf{y} is orthogonal to $\mathbf{u} + \mathbf{v}$

2) Compute the orthogonal projection of $\begin{bmatrix} 1 \\ 7 \end{bmatrix}$ onto the line through $\begin{bmatrix} -4 \\ 2 \end{bmatrix}$ and the origin.

Next write $\begin{bmatrix} 1 \\ 7 \end{bmatrix}$ as the sum a a vector on the line and one orthogonal to the line.