

Name:

Let $\mathbf{y} = \begin{bmatrix} 1 \\ 7 \end{bmatrix}$ and $\mathbf{u} = \begin{bmatrix} -4 \\ 2 \end{bmatrix}$. Write \mathbf{y} as the sum of a vector in $\text{Span}\{\mathbf{u}\}$ and a vector orthogonal to \mathbf{u} .