

QUIZ 7 CLASS 19

Linear Algebra I

Section:
Week 8

NAME & ID(Please print legibly)

PLEASE SHOW ALL YOUR WORK.

1. Find a matrix whose row space contains $\begin{bmatrix} 1 \\ 2 \\ 1 \end{bmatrix}$ and whose nullspace contains $\begin{bmatrix} 1 \\ -2 \\ 1 \end{bmatrix}$,
or prove that there is no such matrix.
2. Find the matrix that projects every point in the plane onto the line $x + 2y = 0$.
3. Find all vectors that are perpendicular to $\begin{bmatrix} 1 \\ 4 \\ 4 \\ 1 \end{bmatrix}$ and $\begin{bmatrix} 2 \\ 9 \\ 8 \\ 2 \end{bmatrix}$.