

Name _____ Linear Algebra, Quiz 8

1) Diagonalizable the matrix below.

$$\begin{bmatrix} 5 & 2 \\ 4 & 7 \end{bmatrix}$$

2) Find a matrix that performs the two operations below simultaneously. You do not need to simplify your answer.

Stretches a vector by a factor of 3 in the direction $\begin{bmatrix} 1 \\ -1 \end{bmatrix}$.

Stretches a vector by a factor of 9 in the direction $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$.