

Linear Dependence and Transformations

1. Determine if the vectors are linearly independent. Justify your answers.

(a)

$$\begin{bmatrix} -4 \\ 0 \\ 1 \\ 5 \end{bmatrix}, \begin{bmatrix} -3 \\ -1 \\ 0 \\ 4 \end{bmatrix}, \begin{bmatrix} 0 \\ 4 \\ 3 \\ 6 \end{bmatrix}$$

(b)

$$\begin{bmatrix} 1 \\ -3 \\ 0 \end{bmatrix}, \begin{bmatrix} -3 \\ 7 \\ 1 \end{bmatrix}, \begin{bmatrix} 3 \\ -1 \\ -4 \end{bmatrix}, \begin{bmatrix} -2 \\ 2 \\ 3 \end{bmatrix}$$