

Additional Problems Assignment 7

1. Let $\vec{v}_0 = \begin{bmatrix} 4 \\ -1 \end{bmatrix}$. Consider the function from $\mathbb{R}^2 \rightarrow \mathbb{R}^2$ defined by: $T(\vec{v}) = 3\vec{v} + 4\vec{v}_0$.
 - (a) Show that T either is or is not a linear transformation.
 - (b) If T is a linear transformation, find its corresponding matrix A .