Solution to Practice 1i

A4(a) $10\begin{bmatrix}0\\0\\0\end{bmatrix}+0\begin{bmatrix}1\\0\\1\end{bmatrix}+0\begin{bmatrix}2\\1\\-1\end{bmatrix}=\begin{bmatrix}0\\0\\0\end{bmatrix}$

A4(b) $0\begin{bmatrix}2\\-1\\3\end{bmatrix}+2\begin{bmatrix}0\\2\\1\end{bmatrix}-\begin{bmatrix}0\\4\\2\end{bmatrix}=\begin{bmatrix}0\\0\\0\end{bmatrix}$

A4(c) $\begin{bmatrix}1\\1\\0\end{bmatrix}+\begin{bmatrix}1\\1\\1\end{bmatrix}-\begin{bmatrix}2\\2\\1\end{bmatrix}=\begin{bmatrix}0\\0\\0\end{bmatrix}$

A4(d) $\begin{bmatrix}1\\1\end{bmatrix}-2\begin{bmatrix}1\\2\end{bmatrix}+\begin{bmatrix}1\\3\end{bmatrix}=\begin{bmatrix}0\\0\end{bmatrix}$

Did you solve these questions by showing one vector as a linear combination of the others? While that's a perfectly valid way to show that a set is linearly dependent, the directions explicitly stated that you should solve this assignment "by writing a non-trivial linear combination of the vectors that equal the zero vector." Make sure that you always read the fine print when solving a question, as I will sometimes give specific directions as to the method or result I want, so that I can verify that you have learned certain techniques. Failure to follow these directions will result in lost points–maybe even all of them!