EXERCISE OF SECTION 4.4

Question 1. Find all value(s) of k such that $\begin{bmatrix} 1 & 1 \\ 1 & k \end{bmatrix}$ in the span of $S = \left\{ \begin{bmatrix} 1 & -1 \\ 2 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 1 \\ -2 & 1 \end{bmatrix}, \begin{bmatrix} 3 & 0 \\ 1 & 2 \end{bmatrix} \right\}$.