Name _____

1) Find the determinant of the matrix below.

$$\begin{bmatrix} 3 & 2 & 0 & 0 \\ 1 & 0 & 3 & 0 \\ -1 & 4 & 0 & 8 \\ 0 & -1 & 2 & 0 \end{bmatrix}$$

2) Given the information below, write down a formula for $[\vec{x}]_{B_2}$. You do not need to compute or simplify your answer.

$$B_1 = \left\{\begin{bmatrix}1\\2\\3\end{bmatrix}, \begin{bmatrix}1\\1\\1\end{bmatrix}, \begin{bmatrix}1\\0\\7\end{bmatrix}\right\} \quad B_2 = \left\{\begin{bmatrix}1\\0\\3\end{bmatrix}, \begin{bmatrix}-1\\1\\-1\end{bmatrix}, \begin{bmatrix}5\\5\\0\end{bmatrix}\right\} \quad \vec{x} = \begin{bmatrix}1\\5\\4\end{bmatrix}_{B_1}$$