

Math 54
Practice Quiz #4

Name (Print): _____

1. Suppose $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ is the standard matrix for an invertible linear function $T : \mathbb{R}^2 \rightarrow \mathbb{R}^2$ and $B = \begin{bmatrix} 1 & 0 & 4 \\ 3 & 4 & 0 \end{bmatrix}$ is the standard matrix for a linear function $S : \mathbb{R}^3 \rightarrow \mathbb{R}^2$. Find the standard matrix for $T \circ T \circ T^{-1} \circ S$.

2. Let $A = \begin{bmatrix} 1 & -2 & 4 & 1 \\ 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$. Find a basis for $Col(A)$ and a basis for $Nul(A)$.