

QUIZ #4, 9/6/07

MATH 54, FALL 2007

Show your work and justify your answers! Feel free to use both sides.

Name:

1. Find the inverse of $\begin{bmatrix} 2 & 1 \\ 2 & 2 \end{bmatrix}$.

2. For each of the following transformations from \mathbb{R}^2 to itself, state (you needn't justify your answers here) whether it is linear or not. **If it is linear, write down its matrix.**

(a) $y_1 = x_1$ and $y_2 = 4x_2 - 8x_1$

(b) $y_1 = e^{x_1}$ and $y_2 = e^{x_2}$

(c) $y_1 = 3$ and $y_2 = x_1$

(d) $y_1 = 6x_1 \cdot x_2$ and $y_2 = 2x_2$