Math 421 / Quiz 4
Name:

1. If $\mathbf{A}^{-1} = \begin{pmatrix} 4 & 3 \\ 3 & 2 \end{pmatrix}$, what is $\mathbf{A}$?

2. Is there a matrix $\mathbf{A} \in M_{2\times 2}$ such that $\mathbf{A}^2 = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$? If your answer is yes, then find it. If your answer is not, then justify why such a matrix does not exist.