MATH 2030 HOMEWORK #6

DUE: MONDAY MARCH 13 IN CLASS

PLEASE SHOW ALL YOUR WORK FOR FULL CREDIT!

1. Describe all possible matrices $A = \begin{bmatrix} 1 & b \\ c & d \end{bmatrix}$ with real entries such that $A^{-1} = A^T$.

2. **(Similar to Problem 2.61 in text)** Find all diagonal 3×3 matrices A with complex entries such that $A^2 = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & -1 \end{bmatrix}$