

Additional Problems Assignment 11

1. Let $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ be a general 2×2 matrix.

(a) Find a matrix $B = \begin{bmatrix} e & f \\ g & h \end{bmatrix}$ that satisfy:

$$AB = I_2$$

where

$$I_2 = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}.$$

(b) Show for this B :

$$BA = I_2$$

and thus $B = A^{-1}$.

(c) What conditions must you put on a, b, c, d in order for A to be invertible?