Directions: Please answer in the space provided. No calculators. Please put all phones, etc., away.

1. Suppose A, B and X are invertible matrices, and $(5BX)^{-1} = A$. Express X in terms of A and B.

2. Find the inverse of the matrix $A = \begin{bmatrix} 1 & 1 & 0 \\ 1 & 1 & 1 \\ 0 & 1 & 1 \end{bmatrix}$, if it exists, or verify that it does not exist.