

Name:

1. Find the inverse of the following matrix, or state that there isn't one.

$$A = \begin{pmatrix} 1 & -2 & 2 \\ 0 & -1 & 1 \\ 2 & 0 & 1 \end{pmatrix}$$

2. Consider the following matrix.

$$B = \begin{pmatrix} 1 & 3 & 9 \\ 2 & 3 & 2 \\ -1 & -4 & 7 \end{pmatrix}$$

(a) Find a lower-triangular matrix L and an upper-triangular matrix U such that $B = LU$.

(b) Use your answer from part (a) to solve the following matrix equation for \mathbf{x} .

$$B\mathbf{x} = \begin{pmatrix} 7 \\ -48 \\ 64 \end{pmatrix}$$