

1. Given the matrix:  $A = \begin{bmatrix} 2 & -3 & -4 \\ 0 & 0 & -1 \\ 1 & -2 & 1 \end{bmatrix}$

(a) (7 points) Find  $A^{-1}$ , the inverse of  $A$

(b) (3 points) Use  $A^{-1}$  to solve the system of equations: 
$$\begin{cases} 2x - 3y - 4z = 7 \\ -z = 13 \\ x - 2y + z = -1 \end{cases}$$