Instructions: Please answer the following legibly, logically, and **show all work**. No credit will be given for unjustified or unclear work. When you are finished, please scan your work (or take pictures) and submit via the Assignments link on Canvas.

1. Given a $n \times n$ matrix A, state the definition of A being **invertible.**
   [*Hint*: It's **NOT** just: A has an inverse.]

2. Find A^{-1} given that $A = \begin{bmatrix} 1 & 0 & -2 \\ -3 & 1 & 4 \\ 2 & -3 & 4 \end{bmatrix}$.

3. Let A be an $n \times n$ matrix.

   (a) If A is invertible, what *special* matrix (of the same size) is A equivalent to?

   (b) Use your answer to (a) to show that if A is invertible, then the columns of A are linearly independent.