Observations About Inverses

Here are some observations about inverses:

- If A is non-singular (full set of pivots in G-J), then A^{-1} exists.
- If A has an inverse, then $Ax = b$ has a unique solution:

$$Ax = b \iff A^{-1}Ax = A^{-1}b \iff Ix = A^{-1}b \iff x = A^{-1}b$$

- If $Ax = 0$ has a non-trivial solution (non-trivial null space), then A is not invertible (why?)