

- 2. Short answer. (2 points each)
 - (a) If *A* is a \times 3 matrix and *B* is a 4 \times 2 matrix, is either *AB* or *BA* defined? If so, give the size of the result.
 - (b) A linear transformation from \mathbb{R}^2 to \mathbb{R}^3 cannot be onto. (True or FALSE and explain.)
 - (c) If a linear transformation $T : \mathbb{R}^m \to \mathbb{R}^n$ is one-to-one, then $n \ge m$. (TRUE or FALSE and explain.)
- 3. Use the augmented matrix method to find the inverse of the matrix (7 points)

$$A = \begin{bmatrix} 1 & 1 & 3 \\ 3 & 2 & 1 \\ 0 & 0 & 1 \end{bmatrix}$$