Homework 3

1. True or False? $R(A^T) = R(B^T)$ if and only if $R(A) = R(B)$.

2. Let A be an $n \times m$ matrix. True or False? If $A\mathbf{x} = 0$ has a unique solution, then $A\mathbf{x} = \mathbf{b}$ is consistent for each $\mathbf{b} \in \mathbf{R}^m$.