Homework # 2, Due 1/28/2015

1. Show that for a full rank A matrix, $\delta(A)$ is strictly greater than zero.

2. Equivalent of theorem 4.3 for Matching Pursuit. Consider the system of equations $Ax = b$, where A is $n \times m$ with $n < m$ and A full rank. If a solution x^* exist obeying $\|x^*\|_0 < \frac{1}{2}(1 + \frac{1}{\mu(A)})$, then OMP run with a threshold of zero is guaranteed to select only the columns with the nonzero weights. (Make sure to understand the difference with the result for OMP).