Math 132 - HW 7

1. True/False: Determine which of the following statements are true. For each true statement, give a proof and for each false statement produce a counterexample.
   (a) Every linear operator on an n-dimensional complex vector space has n distinct eigenvalues.
   (b) Eigenvalues must be nonzero scalars.
   (c) Any two eigenvectors are linearly independent.
   (d) The sum of two eigenvalues of a linear operator T is also an eigenvalue of T.
2. Do exercise 5.C.3.