

Math 304 Section 1 Quiz 17

8/9/16

Name: \_\_\_\_\_

Let  $A$  and  $B$  be  $n \times n$  matrices.

- T F** If  $A$  and  $B$  have the same characteristic polynomial, then  $A$  and  $B$  have the same eigenvalues.
- T F** If  $A$  and  $B$  have the same eigenvalues, then  $A$  and  $B$  have the same characteristic polynomial.
- T F**  $A$  will always have at least one real eigenvalue.
- T F** The sum of the dimensions of the eigenspaces of  $A$  is always  $n$ .
- T F** If  $A$  is diagonal, then the sum of the dimensions of the eigenspaces of  $A$  is always  $n$ .

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