

Math 304 Spring 2010

4/29/2010

Quiz #13

Name: _____

Show all work clearly and in order. Please box your answers. 10 minutes.
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1. Let $A = \begin{bmatrix} 1 & 0 & 4 \\ 2 & 3 & 1 \\ 2 & 0 & 1 \end{bmatrix}$. Find $\det(A)$.

2. Suppose $B = \begin{bmatrix} 1 - \lambda & 1 \\ 0 & 3 - \lambda \end{bmatrix}$.

(a) Find $\det(B)$.

(b) Find those values of λ for which $\det(B) = 0$.

3. Suppose A and B are $n \times n$ matrices with real entries. Suppose $\det(AB) = 0$. Show that either A or B (or both A and B) must be singular (i.e., not invertible).