Quiz 3

Math 54-Lec 3, Linear Algebra, Fall 2017

SECTION: NAME:

You have 30 minutes to complete this quiz. To receive full credit, you must justify your answers.

Problem 1.(5 points.) Compute the inverse of the matrix A, below.

$$A = \begin{bmatrix} 2 & -4 \\ 4 & -6 \end{bmatrix}$$

Problem 2.(5 points.) Compute the determinant of the following matrix.

$$\begin{bmatrix} 5 & -7 & 2 & 2 \\ 0 & 3 & 0 & -4 \\ -5 & -8 & 0 & 3 \\ 0 & 5 & 0 & -6 \end{bmatrix}$$

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Problem 3.(1 point each.) Label the following statements true or false. You do not need to justify your answers.

(a.) _____ For a square matrix A, if $\det(A) = 0$, then A is invertible.

(b.) _____ If two rows of a square matrix A are identical, then $\det(A) = 0$.

(c.) _____ If a matrix A is invertible, then the linear transformation T_A of A is one-to-one and onto.

(d.) _____ If A and B are invertible matrices, then their product AB is invertible.

(e.) _____ For a square matrix A, $\det(A^T) = -\det(A)$.