

Quiz 8

Linear Systems

Name: _____

Date: _____

Time Begun: _____

Time Ended: _____

Friday March 30

Ron Buckmire

Topic : Determinants

The idea behind this quiz is to provide you with an opportunity to illustrate your understanding of determinants.

Reality Check:

EXPECTED SCORE : _____/10

ACTUAL SCORE : _____/10

Instructions:

1. Please look for a hint on this quiz posted to faculty.oxy.edu/ron/math/214/07/
2. You may use the book or any of your class notes. You must work alone.
3. If you use your own paper, please staple it to the quiz before coming to class. If you don't have a stapler, buy one. QUIZZES WITH UNSTAPLED SHEETS WILL NOT BE GRADED.
4. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
5. Your solutions must have enough details such that an impartial observer can read your work and determine HOW you came up with your solution.
6. Relax and enjoy...
7. **This quiz is due on Monday April 2**, in class. NO LATE OR UNSTAPLED QUIZZES WILL BE ACCEPTED.

Pledge: I, _____, pledge my honor as a human being and Occidental student, that I have followed all the rules above to the letter and in spirit.

1. Suppose that $\det(A) = \begin{vmatrix} a & b & c \\ d & e & f \\ g & h & i \end{vmatrix} = -3$.

Find the following determinants, and briefly explain your reasoning. Note you do not have to do any calculations, just give the value of the determinant **and** the reason(s) for how you know what the value of each determinant is.

a. (2 points). $\begin{vmatrix} g & h & i \\ a & b & c \\ d & e & f \end{vmatrix} =$

b. (2 points). $\begin{vmatrix} a & d & g \\ b & e & h \\ c & f & i \end{vmatrix} =$

c. (2 points). $\begin{vmatrix} 2a & 2b & 2c \\ 2d & 2e & 2f \\ 2g & 2h & 2i \end{vmatrix} =$

d. (2 points). $\begin{vmatrix} a & b & c \\ 0 & e - bd/a & f - cd/a \\ 0 & h - bg/a & i - cg/a \end{vmatrix} =$

e. (2 points). $\det \left(\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} \right) =$