Math 214 Spring 2006

BONUS QUIZ 2

Linear Systems

Name: _____

Date: _____

Friday February 3
Ron Buckmire

Topic : Operations on Vectors and Matrices

The idea behind this quiz is for you to indicate your understanding of the material from Chapter 1 of the text, specifically your ability to manipulate vectors and matrices.

Reality Check:

EXPECTED SCORE : _____/10 ACTUAL SCORE : _____/10

Instructions:

0. Please look for a hint on this quiz posted to `faculty.oxy.edu/ron/math/214/06/`
1. Once you open the quiz, you have **30 minutes** to complete, please record your start time and end time at the top of this sheet.
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.
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 February 6**, in class. NO LATE 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.

Math 214 Spring 2006 **SHOW ALL YOUR WORK** **BONUS** Quiz 2

1. *4 points.* Suppose $\vec{v} = (1, 2, 2)$.

a. Find a vector $\vec{u}$ parallel to the given vector $\vec{v}$.

b. Find a vector $\vec{w}$ perpendicular to the given vector $\vec{v}$.

2. *6 points.* Find the following matrix products.

a. $\begin{bmatrix} 1 \\ x \end{bmatrix} \begin{bmatrix} y & 2 \end{bmatrix} =$

b. $\begin{bmatrix} y & 2 \end{bmatrix} \begin{bmatrix} 1 \\ x \end{bmatrix} =$

c. Which of the two matrix products above is equivalent to a dot product between two vectors? **EXPLAIN YOUR ANSWER.**