

BONUS Quiz **2**

Multivariable Calculus

Name: _____

Date: _____

Friday September 23

Time Begun: _____

Ron Buckmire

Time Ended: _____

Topic : Vector Cross-Product and Planes

The idea behind this bonus quiz is to provide you with an opportunity to illustrate your understanding of the cross-product and its connection to the equation of planes.

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/212/05/.
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 September 26**, 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.

1. Using the cross product, find an equation for the plane containing the points $P = (1, -1, 2)$, $Q = (-1, 2, 3)$ and $R = (-2, 0, -1)$ in the form $Ax + By + Cz + D = 0$. Find the coordinates of a fourth point which you are sure also lies on this plane.

1. Find the distance between the point $A = (2, -1, 3)$ and the plane $3x + y - 2z = 4$.