MATH 251   Maple Assignment 1

Sections H1-H3

September 2, 2015

You are encouraged to discuss this assignment with other students and with the instructors, but the work you hand in should be your own. The web page

`http://www.math.rutgers.edu/courses/251/Maple/Lab1/Vectors.html`

can help you with this assignment; to find it, follow the "Maple in Math 251" link on the the Math 251 course webpage. There is also a link to this website in this folder on Sakai.

A website will be posted listing individualized data for each student. For this lab, the data will consist of coordinates for three points, p, q, and r, in $\mathbb{R}^3$. Then $\vec{pq}$ will denote the vector directed *from p to q* and $\vec{pr}$ will denote the vector directed *from p to r*. The vector $\vec{v}$ will be $\vec{pq} \times \vec{pr}$, the cross product (vector product) of the two vectors. T will be the triangle in $\mathbb{R}^3$ whose vertices are p, q, and r.

Use `Maple` to compute $\vec{pq}$, $\vec{pr}$, and $\vec{v}$. Use `Maple` to sketch these three vectors and the triangle T in one picture.

This assignment is due **September 24, 2015** in recitation. Late submissions will *not* be accepted.

Please hand in a printout of all Maple instructions that you use. You can NOT turn in this assignment electronically.

- All pages should be labeled with your name and section number. Also, please *staple* together all the pages you hand in.

- You should clean up your submission by removing the instructions that had errors.

The work that you hand in should include:

1. A printout of all `Maple` instructions you have used. Identify clearly in your printout the components of the vectors $\vec{pq}$, $\vec{pr}$, and $\vec{v}$. (These identifications can be done "by hand" on your printout. That is, you can print out the Maple document, then write the identification on the document afterwards.)

2. A printout of a picture of the three vectors and the triangle T. The picture should include labeled axes and should show the geometry of the situation well. Label the points p, q, and r in your picture. Label the vector v in your picture. Label the triangle T in your picture. (These labels can be done "by hand" on your printout.)