

MATH 251

Maple Assignment 1

Section C1

May 27, 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 **June 11, 2015** in class. 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. 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.)