

# Journal of Chelsie Wollett for Fall 2008

Chelsie Wollett

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## 1 Week of September 9, 2008

### 1.1 New School Year, New Assignment

All of last school year, I worked with what we have dubbed as the “determinant” group. Our main focus in this group is to find an efficient way to compute a determinant of a sum of matrices. We split up our group into two parts this quarter. Benigno and I are again trying to tweak the equation to make it more efficient and faster to compute. For the first time since I have been working with Dr. Mohlenkamp, I have a task that has less to do with the numbers and more to do with the observations. He wants me to see if there have been publications on mathematical based research groups before. He then wants me to observe how our group functions and see if there could be improvements based on how previous groups operated.

## 2 Week of September 16, 2008

### 2.1 Math Research

I’ve been in this group for quite some time now, but I feel like this is the first time I’m really doing “research.” My other quarters were always spent trying to tweak formulas, but now I’m trying to find concrete information. My first place to go was Google. But, as I figured, there was a lot of information that I was not looking for. It was tedious to sift through it all, and I quickly thought that there was no way Google was going to give me what I was looking for. I did find a few universities who say some of their groups are research groups, but really they are either getting their students internships, or just working on math problems like a class. Most of what I found, however, had to do with REU’s. While they are much closer to what we do in our group, they still act more like a class than we do.

## 3 Week of September 23, 2008

### 3.1 Catching up and Refining

During the Determinant group meeting, I spent the hour trying to catch up on what Prasanth and Benigno had been getting done on our equation. They looked at it in the rank-1 case and made a lot of observations that will make the equation simpler for low-rank cases. Dr. Mohlenkamp then gave me ideas on how to proceed with my research. He told me that looking strictly at mathematics

may not be the way to go, and I might have to broaden my thoughts to other sciences, especially chemistry. But, for the moment, I'm sticking with the math. He said I should try to find out if there are journals that are geared more towards math education, so I went to Dr. Klein. He sent me a link to the mathematics education reseearch guide on Alden Library's site. This site has the names of a few key people to talk to about finding reference materials, some books that key in on math education research, and titles of journals. My goal is to get into Alden this week and take a look at the books and start searching through the journals.

## **4 Week of September 30, 2008**

### **4.1 Searching**

I started the search process this week. I have not done a search through scholarly journals since high school so this ended up being an incredibly long and tedious process. Searching for research groups turned up a majority of articles on research into group theory. I had to refine my search many times to get just a few articles that pertained to research on student groups. I think I have found four articles that may have some information we are looking for. They range from research on how groups work in mathematics at the high school level in America, to graduate students in Sweden. Hopefully, I will have all of these read by next week and will have some findings to present.

## **5 Week of October 7, 2008**

### **5.1 Roadblocks**

The first problem I encountered while trying to read my articles was the inability to access them. I was able to access all four from my home through the Ohio University off-campus logon. I figured that when I finally had time to read through all the articles I would go back and re-login. However, I tried multiple times for two of the articles and was told my campus had no authorization for that article. Unfortunately, the two I could not access were the two that probably had information more similar to our group than the others. I went ahead and read the other two articles and got what I expected. The first article I could access is about group work in high schools. It definitely promotes learning in math when you are forced to express your learning to a peer as well as learn from what they are telling you. This sort of pertains to us, since we present to each other, the concepts will be more efficiently grasped. The second article that the abstract made me think would talk about how PhD students worked in groups actually only talked about how best the faculty should supervise them. I am still trying to access the other two articles, and now I will probably go back and search through the journals again.

## **6 Week of October 14, 2008**

### **6.1 Read-throughs**

I finally was able to access all four articles, and have skimmed through all. Now I need to go back through and read each one more in depth so that I can write summaries for them. The summaries will then be read by Dr. Mohlenkamp to decide if the articles are worth a second look for implementation with our group.

## **7 Week of October 21, 2008**

### **7.1 Windows Problems**

I got through two of the articles and had started writing up their summaries when I encountered some Windows problems. Namely, Windows was gone. It took me most of the week to get my computer back up and running. With the erase, I lost the sites and titles for all four articles. I can write up a general summary for the two I had read more in depth, but I can not seem to find them again. I did another search and found three more promising ones, so I also wrote a summary on those.

## **8 Week of October 28, 2008**

### **8.1 Final Report**

I have everything back up and running, and have managed to read through a few articles that I did summaries on last week. Now my goal is to take what I've learned in these articles along with my observations from working with Dr. Mohlenkamp and write a report on how our group is working. I am going to take the ideas we came up with last week and incorporate those into the paper so we can try to improve how the group works and increase what we get done.

## **9 Week of November 4, 2008**

### **9.1 Finishing the Final Report**

I have been working on the final report since late last week. I am trying to make use of all the ideas we came up with at our group meeting a few weeks back in a way that will improve the way the overall group functions. It hasn't come along like I wanted it to yet due to classes, but it's getting there. Hopefully I will have it done for the determinants group meeting next week.