Math 361 Quiz 1

1. You want to know what people in your small town think about getting news business into town. You decide to go to WalMart and ask folks coming out what they think. You position yourself at the exit and ask folks. You decide Tuesday and Wednesday mornings this week from 8-11am is when you will go ask folks. Can you think of any issues with this? Is there any bias?

**This is sampling by convenience. The demographics are constrained by choosing WalMart customers who shop 8-11 on Tuesday and/or Wednesday during this one particular week. Others outside of this constraint who may have an interest in this subject are not sampled. There are biases because of the constraints mentioned and because not all customers will want to be questioned, give honest answers, or even give answers at all.**

1. You are making biscuits and want to know if there is a difference in how high the biscuits rise and if the brand of flour and the kind of milk matter (skim, 1% or whole milk). How would you go about setting this up? Could there be interaction? If so, what would that mean?

**To conduct the experiment, I would prepare separate biscuit batter mixers varying the brand of flour (at least two brands) and the kinds of milk (3 fat contents mentioned). I would try to minimize and control interactions by setting the following parameters constant: ingredient measurements, mixing and mixture setting times, baking temperature, and baking and cooling times. I would measure biscuit rise height at the same time period after the completion of baking using a reproduceable measurement technique. I would record my results accurately and present the results in an easily understood format. This should give meaningful results to the experiment.**

1. Why do we want percentages on our pie charts?

**Pie charts with quantities instead of percentages would require a reference to the total quantity. Also, with percentages, it is possible to compare different, but related pie charts.**

1. What is the point of a stacked bar chart?

**A stacked bar chart shows more than one category within each grouping for the purpose of comparing these categories among the different groupings.**