**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due: Feb 27th, 2014 20 points**

**Math 160 Lab 1 – Introduction to StatCrunch – Ch 1 - 3**

Explanation of the data that you will be looking at:

Bears are anesthetized for a variety of reasons. In areas that humans and bears cohabit, bears may be anesthetized by wildlife managers for translocation and/or marking. Bears may be anesthetized for research purposes or for medical management of sick bears.

Here are the 9 variables in our data set:

Age = is the age of the bear in months

Month = the month the bear was measured (Jan – Dec)

Sex = female ( 1) and male ( 2)

Headlen = head length in inches

Headwth = head width in inches

Neck = distance around neck in inches

Length = length of body in inches (not including head)

Chest = Distance around chest (in inches)

Weight = weight of bear measured in pounds

Question 1: Looking at the variables (not the actual data values), answer the following;

1. Which variable(s) are qualitative?
2. Which variable(s) are quantitative?
3. Looking at your quantitative variable(s) do you have any that are discrete?
4. Which variable(s) are nominal?
5. Which variable(s) are ordinal?
6. Which variable(s) are interval?
7. Which variable(s) are ratio?

**Question 2: Put Frequency table results for LENGTH here :**

1. **Do you have a concern with the class limits? Explain.**
2. Using **this relative frequency table** find the mean LENGTH. Notice that this mean is different than if you found the mean using the raw data. **Show your work.**
3. What percentage of bears had a body length between 50 to 60 inches?

Question 3: Put your Histogram for AGE here

1. How many bears are in our sample?
2. What percentage of bears where younger than 50 months?
3. Find the Mean List Price given the information on this histogram. The Mean List Price obtained from this Histogram will be slightly different than the mean list price obtained from the raw data. **You must calculate the Mean from the information on this histogram. Show your work.**

Question 4: Paste your summary statistics table here.

Re-type the mean and standard deviation below round accordingly to the rules we talked about in class.

Mean =

S =

1. One of the bears in our sample is 73.5 inches tall. Is that an unusual height? Find the z-score and explain. Explain using complete sentences for credit.

b) If you wanted to calculate the EXACT mean and the data was presented to you in three ways. Which would you use to find the EXACT mean ( we don’t want an estimate of the mean – we want the real mean)

Raw Data

Grouped Data (frequency table)

Histogram

Question 5: Paste you boxplot here

1. Compute the IQR for both males and females.
2. Which group had the most variable weight?
3. Find the median weight for male and female bears.
4. What percentage of male bears weighed above 200 lbs?

It is very hard to weigh bears after they have been anesthetized. It is much easier to measure their body. Using this data, use a scatter plot to see the relationship between body length and body weight?

Go to GRAPH select “Scatter Plot”. Choose LENGTH for the x column and WEIGHT for the y column. Under Group by: choose SEX. Now click on compute!

Question 6: Put your Scatter Plot here.

1. Based on the scatter plot, does there appear to be a linear relationship between length and weight.
2. If there is a linear relationship, how does this help park rangers when it comes to weighing bears? Explain using complete sentences for credit.