**MATH 1240 – Activity #1**

**(due Tuesday, January 30)**

Read Example 1.4 on the bottom of p. 10 in our textbook, and then download the FISHDDT file to Minitab (linked from my webpage). Answer the following questions, using Minitab where appropriate. (I suggest typing your solutions in Word, since Minitab and Word work well together.)

**a.** Describe the population of interest. Be specific!

**b.** Describe the sample.

**c.** Use Minitab to create two pie graphs: one for the species of fish and another for the river/creek where each fish was captured. Be sure to include descriptive titles and slice labels.

**d.** Use Minitab to create three histograms: one for the length, one for the weight, and one for the DDT concentration. Be sure to include descriptive titles and to label your axes. For each histogram, describe the shape/skew of the distribution and any possible outliers.

**e.** The Army Corps of Engineers is interested in DDT concentration. Which measure of center (mean, median, or mode) would you use to describe the center of this distribution? Explain your reasoning. Use your chosen measure of center (calculated by Minitab) to make an inference about the DDT concentration in the entire population. Be specific!

**f.** Use Minitab to create a box plot of the lengths. Be sure to include a descriptive title and axis label. What does the box plot tell you? Find, and interpret, the z-score of the shortest fish in the sample (use Minitab to find the appropriate mean and standard deviation).

**g.** It is reasonable to assume that the weights of all the fish in the target population are normally distributed (and your histogram of the weights of the fish in the sample should back this up). Draw and label a picture, based on the Empirical Rule and your sample data, which approximates the distribution of the weights of all the fish in the target population (again, use Minitab to find the appropriate mean and standard deviation). Explain this picture to a general audience. Be very specific! (Feel free to cut and paste the following picture.)

