**Objectives for the Statistics Quiz:**

Given a population data set:

 Find the mean, median, mode, standard deviation, variance, range and make an appropriate

 histogram of the data.

 Determine if the population is normally distributed and, if so:

 Find and interpret z-scores of certain values.

 Find scores that determine certain “percentile ranks” or proportions of the data.

Given two population data sets:

 Use means, medians, etc., and z-scores to compare elements of the 2 data sets.

Given a sample data set:

 Find the mean, median, mode, sample standard deviation, sample variance, and make an

 appropriate histogram of the data.

 Find the standard error of the mean.

 Given a confidence level, find the margin of error and create a confidence interval for the

 population mean using Z\* scores.

Determine the relationship between margin of error and sample size.

Given a binomial situation:

 Find the sample proportion.

 Given a confidence level, find the margin of error and create a confidence interval for the

 population proportion.

Given a normal distribution:

Use the Empirical Rule to estimate percentages of data within certain standard deviations of

 the mean.

 Estimate the mean and standard deviation.

Given other distributions:

 Analyze relationships between mean, median, mode, standard deviation

Determine the type of sampling method used and analyze problems with sampling methods.

Design a sampling method for collecting data.

Know the difference between a population and a sample.

Know the difference between a survey and a census and the difference between a survey and an

 experiment.