Study Guide for the First Midterm Math 1040

Chapter 1. (Mostly Vocabulary)

Be sure you know the meanings of the following:

(a) Populations (and parameters) vs Samples (and statistics)

(b) Descriptive vs Inferential Statistics

(c) Qualitative vs Quantitative Data

(d) Classifying data by level of measurement:

Nominal

Ordinal

Interval

Ratio

(e) Types of data collection:

Observational study

Experiment

Simulation

Survey

(f) Types of sampling techniques

Random

Cluster

Stratified

Convenience

Systematic

Chapter 2.

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- (a) Given a list of numbers and a number of classes:Create a table with frequencies, relative and cumulative frequenciesConstruct a frequency and cumulative frequency histogram.Construct a frequency polygon and an ogive.Recognize a symmetric bell-shaped distribution
- (b) Given a list of numbers, construct stem/leaf and dot plots.
- (c) Given qualitative/quantative paired data:

Construct a pie chart and a Pareto chart.

- (d) Given quantitative/quantitative paired data: Construct a scatter plot.
- (e) Given raw data (a list of numbers):

Compute the mean, median and mode.

Compute the variances (deviations), and their squares

Compute the standard deviation.

(f) Given grouped data (individual or in classes):

Compute the weighted mean

Compute the sample standard deviation

(f) Given a frequency distribution and a standard deviation:

Be able to use the Empirical Rule to say things about the population if the distribution is (nearly) symmetric and bell-shaped

Use Chebychev's Theorem to say things about the population with no assumptions on the distribution.

Remember: There is a sample midterm on the handout at: www.math.utah.edu/~ahacon/1040.html