Math 102
Exam 4 Review Sheet

Section 14.1 Organizing and Visualizing Data

• Know the definitions of population, data, and sample, and be able to identify what they are for a given example.
• Understand basic experimental design, and be able to identify different types of bias (selection bias, leading question bias, and non-response bias)
• Understand and be able to both use and construct frequency tables, relative frequency tables, and both frequency and relative frequency histograms (bar graphs).
• Understand how to group data into classes and make tables and histograms based on grouped data.
• be able to make stem and leaf displays for a data set.
• Be able to interpret data given by table and histograms.

Section 14.2 Measures of Central Tendency

• Understand and be able to compute the mean, median, mode, and midrange of a set of data.
• Be able to compute the mean, median, mode, and midrange of a set of data given by a frequency table.
• Be able to find the 5 number summary of a data set (min, Q1, Median, Q3, max), and draw its box and whisker plot.
• Understand which measures of center are effected by outliers, and be able to discuss the different aspects of a data set that are described by the different measures of center.
• Be able to use measures of center to solve application problems.

Section 14.3 Measures of Dispersion

• Understand and be able to compute the range, standard deviation, and coefficient of variation of a data set that is listed as individual data points, or data that is given in a frequency table.
• Know that the range is very sensitive to outliers, while the standard deviation is less sensitive to outliers.

Section 14.4 The Normal Distribution

• Memorize the properties of a Normal Distribution, be able to draw the graph of a Normal Distribution and locate the mean and standard deviation on the graph.
• Understand the 68%-95%-99.7% Rule.
• Be able to compute areas under a normal curve using z-scores and a z-table. Also be able to compute the z-score of a data value given the mean and standard deviation of the population.
• Be able to work backwards from a z-score to find the related raw data score, and be able to work backwards from a percentage to find the related z-score.
• Be able to compare data and solve application problems by using z-scores.

Practice Problems:
Chapter Review page 773-774 # 1 - 4, 5, 6, 8, 9, 10, 13, 14, 15
Chapter Test page 774-775 # 1, 2, 3, 5, 7, 8, 9, 10, 13, 14, 15, 16