

STA 2014 STUDY GUIDE FOR THE MIDTERM

- 1.) Recognizing quantitative and qualitative variables.
(Reference: Quiz 1; suggested homework for section 1.1.)
- 2.) Recognizing discrete and continuous variables.
(Reference: Quiz 1; suggested homework for section 1.1.)
- 3.) Organizing quantitative data. In particular, you will be asked to identify classes with a given class width and lower class limit for the first class. In addition, you will use the calculator to construct a frequency distribution, construct a frequency histogram, construct a relative frequency distribution, and construct a relative frequency histogram. Finally, you will be asked to describe the shape of a distribution. (Reference: problem 32 on page 87.)
- 4.) Drawing a stem-and-leaf plot. (Reference: Problem 35 on page 88.)
- 5.) Finding mean, median, and mode for a given data set **using formulas**. You need to know the corresponding formulas and procedures by heart; they **will not** be provided on the test. (Reference: Problems 13, 14, 18, 19 and on pages 116–117.)
- 6.) Finding z -scores, percentiles, quartiles, and interquartile range for a given data set **using formulas**. You need to know the corresponding formulas and procedures by heart. They **will not** be provided on the test. (Reference: Problems 13 and 15 on page 157.)
- 7.) Computing sample or population standard deviation as well as sample or population variance using the calculator. (Reference: Problems 31 and 32 on page 137.)
- 8.) A question based on empirical rule. (Reference: Problems 39 and 40 on page 139.)
- 9.) Find the lower and upper fences for a given data set, determine if there are any outliers, and use the calculator procedure to construct the boxplot. Use the boxplot to identify the shape of the distribution. (Reference: Problem 15, part (d) on page 157; Problem 11 on page 166.)
- 10.) Given a data table for explanatory and response variables, construct scatter diagram, compute and interpret the linear correlation coefficient. (Reference: Problems 23 and 24 (a)-(d) on pages 187–188.)

11.) Given a data table for explanatory and response variables, construct the scatter diagram, find an equation of the least-squares regression line, and use the regression line to make predictions. (Reference: Problems 17 and 18 on page 205.).