

MATH 252-01: Probability and Statistics II

Problem Set 1

Assigned 2018 January 16
Due 2018 January 23

Show your work on all problems! If you use a computer to assist with numerical computations, turn in your source code as well.

1 Devore Chapter 6, Problem 10

2 Devore Chapter 6, Problem 22

3 Devore Chapter 6, Problem 32

4 Computational Exercise

This is designed to give you some practice in dealing with larger data sets using a numerical computation environment such as minitab. Download the data for this problem from

http://ccrg.rit.edu/~whelan/courses/2018_1sp_MATH_252/data/ps01_prob4.dat
using the username and password given in class.

- a. Read the data into your software program.
- b. Determine the sample size n .
- c. Locate the option to calculate the sample median \tilde{x} of the data and evaluate it.
- d. Locate the option to calculate the sample mean \bar{x} of the data and evaluate it.
- e. Locate the option to calculate the sample variance s^2 of the data and evaluate it.
- f. Verify that your software package has calculated the variance as

$$s^2 = \frac{1}{n-1} \sum (x_i - \bar{x})^2$$

(with $n - 1$ in the denominator and not n). If not, perform the necessary adjustment.