Homework 01

Sections 2.1 - 2.5

STAT 5700 - Probability

Instructions

- Homework problems come from the 7th edition of the text *Mathematical Statistics with Applications* by Wackerly, Mendenhall, and Scheaffer, as well as (potential) additional problems provided by the instructor.
- You are responsible for understanding the concepts covered in all problems listed in a homework assignment, but only even-numbered problems should be turned in.
- Be NEAT and show work to support your answers. Points will be deducted if your answer is not adequately supported or the work cannot be readily followed.
- You are encouraged to work together on homework assignments, but each person must write up and turn in their own work and solutions.
- You will turn in this assignment by scanning your work and uploading a single pdf to Blackboard.
- Note there is a corresponding R Lab (Lab 01) that will be due at the same time as this assignment (HW 01).

Problems to do (responsible for content, but not collected/graded)

- Section 2.3: 1
- Section 2.4: 9, 15, 17, 19
- Section 2.5: 25, 31

Problems to submit

- Section 2.3: 4, 8
- Section 2.4: 14
- Section 2.5: 26, 28, 30
- Additional Problem #1 (required): Show that

  a) $P(A_1 \cup A_2) \leq P(A_1) + P(A_2)$

  b) $P(A_1 \cap A_2) \geq P(A_1) + P(A_2) - 1$