Homework 2

Due: 11:59pm, Thursday, Feb. 10th

Instruction: Please scan or typeset your solutions and upload them as a single pdf file to Canvas. Do not just take a picture of your solutions.

0.1. Readings: Sections 2.2, 3.5, 4.1, 4.2 and Appendix R

0.2. Download `RStudio`: `https://www.rstudio.com`. You may use `R`: `https://cran.r-project.org`

1. Section 2.5: 9 (a)

2. Section 3.7: 14

3. Section 4.5: 1 (a) (b)

4. In a multiple-choice exam, there are **20** questions and each question has **THREE** choices. If someone is totally unprepared and randomly chooses answers. Let Y be the number of questions he/she guesses correctly.
(a) What is the distribution of Y?
(b) Find $P(Y = 6)$.
(c) Find $P(Y \leq 6)$.
(d) Find $P(Y > 6)$.
(For questions (b), (c), (d), please write down the formulae for computation, and `R` commands first. Then, provide the answers from your `RStudio`).