

**STA 3032 Homework 2**  
**Due on September 14, 2022 at 11:59 p.m.**

**Instructions:**

- Submit the following file to the relevant dropbox on course website.
  1. **One single pdf file** of your report showing your steps, answers, and R output if necessary. This file should be named  $\text{HW}_x\text{Last.pdf}$ , where  $x$  is the homework number and  $\text{Last}$  is your last name (e.g., HW1\_Lee.pdf).
- **No late homework will be accepted.** Make use of the dropping policy stated in the syllabus if you are unable to meet the deadline.
- In the following, WMMY refers to our textbook by Walpole, Myers, Myers, and Ye.

**Assignment:**

1. WMMY Exercise 3.12.
2. WMMY Exercise 3.14.
3. WMMY Exercise 3.30.
4. WMMY Exercise 3.37.
5. WMMY Exercise 3.45.  
In addition, find the marginal pdfs  $g(x)$  and  $h(y)$ , and the conditional pdfs  $f(x|y)$  and  $f(y|x)$ . Are  $X$  and  $Y$  independent? Explain.
6. WMMY Exercise 3.61.
7. WMMY Exercise 3.75.
8. WMMY Exercise 3.76.