

Homework 7

Math 262

recommended completion date: Monday, November 7

You should do these problems for your own practice, but *your solutions will not be collected or graded*. Solutions are posted on Moodle so you can check your own work.

Book Problems

- Section 3.2 #19, 23, 33, 36 (pages 168–171)
- Section 3.3 #39abcj, 40abe, 47, 55, 68a, 70 (pages 182–187)

Note: If you use technology to evaluate probabilities in your solutions, please write the function call (such as `pnorm(x, μ, σ)` or `qnorm(x, μ, σ)`) that you use to get your answer.

Additional Problem

Suppose X is a random variable with pdf

$$f(x) = \begin{cases} ax + bx^2, & 0 \leq x \leq 1 \\ 0, & \text{otherwise} \end{cases}$$

and $E(X) = \frac{1}{9}$. Either find a and b , or explain why this is not possible.