

# Homework 11

Math 262

Write your solutions to the following problems and turn them in to the homework mailbox (RMS level 3, near the fireplace) by 4:00pm on **Wednesday, April 18**.

## Book Problems

- Section 3.3 #68, 70 (pages 182–187)
- Section 3.4 #71, 74, 75ab, 76ac, 77, 79 (pages 194–196)
- Section 3.7 #113, 115 (pages 220–221)

## Additional Problem

A roll of copper wire has flaws that occur according to a Poisson process with a rate of 1.5 flaws per meter. The *distance between successive flaws* is then exponentially distributed with parameter  $\lambda = 1.5$ . Find the following:

- (a) The mean and variance of the distance between successive flaws on the wire
- (b) The probability that the distance between a randomly selected flaw and the next flaw is at least a meter
- (c) The probability that the distance between a randomly selected flaw and the next flaw is between 0.5 and 1.5 meters