

## Math 4428 Homework 9

due April 30, 2007

This is a variation of exercise 7.4. The bookseller now has reasons to believe that the demand is two times more likely to fall between 120 and 360 than elsewhere in  $[0, 480]$ . He wants to compute how much books he must buy, and what profit he could expect.

1. Find the density function  $f(z)$  and graph it.
2. Find the cumulative distribution function  $F(z)$  and graph it.
3. How many copies should order the bookseller using model of section 7.1 ?
4. What is the expected profit if advertising costs are  $k = \$200$  ?

You do not need to use Matlab to plot the functions.