Homework Week 4

Due Wed. 9/27/17

Three problems + addendum:

1.30

2.6

2.20 + Addendum below.

Addendum to 2.20 in textbook. In addition to parts (a) − (c) of the problem in the textbook, you are to do part (d) below. Note that in part (b), you should find the value of λ that produces the lowest value of C at any a (the lowest value of C resulting from finding the optimal λ will be a function of a). The optimal value of C will be used in both of parts (c) and (d).

(d) Set $a = 1$ in the truncated exponential density. Generate 20,000 *candidate* points using the accept–reject method with the optimal C from part (b). How many points (of the 20,000) were accepted and how does that number compare with the theoretical efficiency? Create a histogram of the accepted points with each rectangle in the histogram being of width 0.1 and overlay on the histogram the true truncated exponential density. Include your code in the homework you turn in.