PHYS:4762 Homework #8

Reading: Read Arfken, Weber, & Harris,   Chapter 19, Section 19.3 (p.957–961)
Chapter 20, Sections 20.1–20.4 (p.963–994)

Due at the beginning of class, Thursday, March 29, 2018.

Homework Problems:

1. (10 pts) Chapter 19, Exercise 19.3.2
   NOTE: There are not two parts to this problem, you simply need to use both the expressions in (a) and (b) to obtain the result. To clarify, please compute an expression for $s_n(x)$ that is valid in the region up to the maximum value of the overshoot. You may assume $n \gg 1$. You answer should be similar in form to Eq. (19.37).

2. (15 pts) Chapter 20, Exercise 20.2.4

3. (10 pts) Chapter 20, Exercise 20.2.5

4. (10 pts) Chapter 20, Exercise 20.2.8

5. (10 pts) Chapter 20, Exercise 20.2.14

6. (10 pts) Chapter 20, Exercise 20.3.3

7. (10 pts) Chapter 20, Exercise 20.3.6

8. (10 pts) Chapter 20, Exercise 20.4.3

9. (15 pts) Chapter 20, Exercise 20.4.4
   HINT: Part (b) can be done elegantly using the Fourier Convolution Theorem and the Fourier transform given in Eq. (20.42).