MATH 21-01 (Introductory Statistics), HW 7 (100 points). Due: 03/31/2017 in class.

From textbook (90 pts)

- Section 5-2: 21, 22
- Section 5-3: 27, 41, 42
- Section 5-5: 10, 13
- Section 6-2: 11, 12, 22, 29
- Section 6-3: 27, 32
- Section 6-4: 7, 9, 10

Not from textbook (10 pts)

Suppose that you have obtained a sample of weights of certain kinds of giant crabs in the Atlantic, in kg. You have caught and released 50 crabs of one kind, from which you got a sample mean of $\bar{x} = 5$ kg and a sample standard deviation of $s = .75$ kg. If you use the sample standard deviation as an approximation to the population standard deviation for these kinds of crabs, find the probability that if you use $\bar{x}$ as an estimate of the population mean weight μ of the crabs, your estimate will be within .8 kg of the population mean? What is the probability that it will be within .2 kg? Hint: apply the central limit theorem for the sample mean.