Math 488P/588 Homework #8

Reading due: Monday, 3/9/2015, Written assignments due: Thursday, 3/12/2015,

NAME: _____

Reading Assignments - current Status:

Bluman:
- skimmed chapter 1
- Ch.2: sections 2.1, 2.2, 2.4
- Ch.3: sections 3.1, 3.2, 3.3 (the part about standard scores)
- all of Ch.4
- all of Ch.5
- Ch.6: sections 6.1, 6.2

Hossain/Makhnin:
- Chapters 1 - 3.5
- Chapters 4.1 - 4.3 and 4.6

Reading Assignments: Reading due: Monday, 3/9/2015,

A. Read Bluman Chapters 6.3-6.4: Normal Distribution, Part 2 and chapter 7.1 confidence intervals for the mean when the population standard deviation is known.

B. Read Hossain/Makhnin Chapter 5.

Some chapters in H/M I have skipped and they will be assigned at a later date:
- H/M 3.7: Poisson Distribution
- H/M 4.4: Exponential distribution
- H/M 4.5.1: Poisson process, disregarding the link with the Gamma function

All written assignments below are **due: Thursday, 3/12/2015,**

Assignment 1:

Bluman Problems p.309/310 ch.6.1;
(just table lookups for the normal distribution)
- #9, #13, #18, #29, #35, #44, #49

Assignment 2:

Look at the following functions $f(x)$. For each one a small number of x-values is given and each one has an unspecified constant k in its definition:

a. $p(x) = (x-2)/k$ for $x = 1, 2, 3, 4, 5$
b. $p(x) = (x^2 - x + 1)/k$ for $x = 1, 2, 3, 4, 5$

c. $p(x) = k/2^x$ for $x = -1, 0, 1, 2$

Can you adjust k in such a manner that $p(x)$ becomes a valid probability mass function? If Yes, compute k. If no, state why this is not possible.

Hint: It is not possible for at least one of the above three questions.