HW 8

STAT 346, Spring 2010

I'll make each homework assignment worth 10 points, so that when I count your best 10 of 13 assignment scores, your overall homework score will be out of 100 points possible. For this assignment, three of the five *parts* to be turned in will be selected for grading. (Two of the graded *parts* will be worth 3 points apiece, and the other one will be worth 4 points.)

1) Consider a random variable X having pdf

$$f_X(x) = \frac{2}{x^2} I_{(1,2)}(x).$$

- (a) Give the value of P(X < 5/4).
- (b) Give the value of E(X).
- (c) Give the value of $E(\frac{1}{X})$.
- 2) Consider Exercise 5 on p. 257 of the text.
- (a) Give the pdf of $Y = e^X$.
- (b) Give the value of $E(e^X)$. (*Note*: One can use the pdf requested in part (a), but one can also just use the pdf of X given in the text. Of course doing it both ways provides a check of your work.)
- 3) Do Problem 3 on p. 274 of the text.

Turn in solutions for Problems 1 and 2, but not 3.