STA2211S, Winter 2012, Homework #3

Due at 1:10 p.m. <u>sharp</u> in class on Monday, March 26. Homeworks which are late, even by one minute, will be penalised, as described on the course web page.

[REMINDER: final exam will be <u>in class</u> at 1:10 p.m. on Monday April 2.]

The assignment: Do the following exercises, **explaining all of your reasoning in complete detail**. (Here "text exercise" refers to exercises from Rosenthal, J.S. (2006), *A First Look at Rigorous Probability Theory, Second Edition* – make sure you have the <u>second</u> edition, not the <u>first</u> edition.) Point values are noted in [square brackets].

PLEASE ALSO INCLUDE AT THE BEGINNING YOUR NAME, STUDENT NUMBER, E-MAIL ADDRESS, DEPARTMENT, PROGRAM, AND YEAR.

    1.   Text exercise 13.4.9. $[5 + 5 + 5 = 15]$

    2.   Text exercise 13.4.11. $[5 + 5 = 10]$

    3.   Text exercise 14.4.1. $[5 + 5 = 10]$

    4.   Text exercise 14.4.3. $[5]$

    5.   Text exercise 14.4.5. $[10]$ (You may assume that $\mathbf{E}|Z| < \infty$.)

    6.   Text exercise 14.4.9. $[10]$

    7.   Text exercise 14.4.13. $[2 + 8 + 2 + 8 = 20]$

    8.   Text exercise 14.4.15. $[10]$

    9.   Text exercise 14.4.21. $[5 + 5 + 5 + 5 + 5 = 25]$

    10.   Text exercise 15.1.7. $[5 + 5 + 5 + 5 = 20]$

    11.   Text exercise 15.2.5. $[5 + 5 + 5 + 5 = 20]$

    12.   Text exercise 15.2.9. $[5 + 5 + 5 = 15]$

    13.   Text exercise 15.2.11. $[2 + 4 + 4 = 10]$

[Total points = 180.]

Note: You are welcome to discuss these exercises in general terms with your classmates. However, you should figure out the details of your solutions, and write up your solutions, entirely on your own. Directly copying other solutions is strictly prohibited.