

STA 200A: Homework 8

Note: Below the notation 3.T11 means Chapter 3, Theoretical Exercise 11. Similarly, the notation 4.P21 means Chapter 4, Problem 21.

1. 7.P4
2. 7.P19
3. Let X and Y be continuous random variables with a joint density function $f_{X,Y}(x, y)$, and let $Z = Y/X$. Show that the density function of Z is

$$f_Z(z) = \int_{-\infty}^{\infty} |x| f_{X,Y}(x, xz) dx.$$

4. 7.T1
5. 7.T2
6. 7.P26
7. 7.P38
8. 7.P48 (just parts a and b)