Adam Hadar – anh2130

STAT 4001 – Prof. Mark Brown

Hwk 2- Due 2016-10-24, 4 PM

1. Chapter 4, Problem 20
   1. Identity (4.3.8) states:

Is true for discrete independent random variables. Since has been defined as

As the general case for conditional distributions, a simple substitution and simplification will lead to

* 1. Since the two equations have direct analogs in the continuous realm:

It is trivial to show that

1. Chapter 4, Problem 6

Given the density function:

1. Chapter 4, Problem 10

Given the density function:

* 1. If it is a joint density function, the function does not hold for independence

Since , the function is not independent, and must be a joint function.

1. Chapter 4, Problem 43

Given the density function:

* 1. Expected profit

1. Chapter 4, Problem 49
2. Chapter 4, Problem 55

If the mean is equal to the variance, then the variable could be described by a Poisson distribution.

1. Problem 7
2. Problem 8
3. Problem 9
4. Problem 10

