

Boston University
MA 581
Probability Theory
Summer 2, 2013
Homework 5
Due on Tuesday, August 6, 2013

The following assignment is meant to complement the learning done in class. To get the most out of your MA 581 experience, you should attend class and complete the assigned readings and problems. One cannot be substituted for the other. Some of these problems may be more challenging than others. Please feel free to work with others, visit my office hours or email me if you need help.

Read: 9.5-9.7, 10.1-10.5

Do the following problems:

Chapter 9: 148, 154

Chapter 10: 28, 34, 53, 71, 77, 117, 132

Let X and Y be independent and identically distributed uniform random variables on $(0, 1)$. Find the pdf of $X + Y$ and Y/X , respectively.

*As always, **SHOW ALL OF YOUR WORK**. You will not get full credit for just putting the final answer.*

If you are struggling or have extra time, I invite you to do more than the problems listed here to further hone your skills and understanding.