

STAT 150 HOMEWORK #7

FALL 2021

Due Monday, November 8th, at 11:59 PM on Gradescope.

Note that there are *Exercises* and *Problems* in the textbook. Make sure you read the homework carefully to find the assigned question.

1. Pinsky and Karlin, Problem 6.1.2
2. Pinsky and Karlin, Problem 6.1.5 (Hint: use the fundamental theorem of calculus to find the joint density of W_1 and W_2 . Then use the change of variables formula to find the joint density of S_0 and S_1 . If you have forgotten the change of variables formula, here is a short reference containing everything you need: <https://online.stat.psu.edu/stat414/lesson/23/23.1>.)
3. Pinsky and Karlin, Problem 6.1.8
4. Pinsky and Karlin, Problem 6.1.13
5. Pinsky and Karlin, Problem 6.2.1
6. Pinsky and Karlin, Problem 6.2.2 (Note: your answer should almost seem like a reflected version of a process that you are quite familiar with but with a boundary condition. Think about why this is the case.)
7. Pinsky and Karlin, Problem 6.2.4