

Due In Class: Wednesday, April 25, 2018

Reading: Read 3.2, 3.4, 3.5.

Turn in the following problems. Exercise a.b.c refers to Exercise c at the end of Section a.b of the textbook. You are welcome (even encouraged) to work on problem sets with other students, but ultimately should write up your final solutions independently.

Problem AV: Exercise 3.2.11

Problem AW: Exercise 3.2.13

Problem AX: Prove there exists a Lebesgue-Stieltjes measure μ on \mathbb{R} with $\mu(B(x, r)) > 0$ for every $x \in \mathbb{R}$ and $r > 0$ such that μ is not doubling, i.e. for all $C > 0$, there exists $x \in \mathbb{R}$ and $r > 0$ such that $\mu(B(x, 2r)) > C\mu(B(x, r))$.

Problem AY: Exercise 3.4.22

Problem AZ: Exercise 3.4.25 (Hint: for part (b), give an example in \mathbb{R}^2)