HOMEWORK 5: MATH 3215-C (PROBABILITY AND STATISTICS)

DUE WEDNESDAY, SEPTEMBER 30TH, 8 P.M. ATL

- All problems are worth 2 points (20 total) and you can get a partial point.
- **If you use any help from anyone or from anywhere, mention it in your work.**
- To get full credit you need to submit full answers.

Problem 1. *Give an example of a random variable that is neither discrete nor continuous.*

Problem 2. *Prove that, if X has the uniform distribution on $[0, 1]$ then for any $x \in \mathbb{R}$, $P(X = x) = 0$ (Hint: first show that if $A \subset B$ then $P(X \in A) \leq P(X \in B)$).*

Problem 3. *Do problem 3.1-5.*

Problem 4. *Do problem 3.1-8.*

Problem 5. *Do problem 3.1-15.*

Problem 6. *Do problem 3.1-19.*

Problem 7. *Do problem 3.1-21.*

Problem 8. *Do problem 3.2-2.*

Problem 9. *Do problem 3.2-16.*

Problem 10. *Do problem 3.2-24.*