

HOMEWORK 10: MATH 3215-C (PROBABILITY AND STATISTICS)

DUE THURSDAY, NOVEMBER 12TH, 8 P.M. ATL

- All problems are worth 2.5 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. Let X_1, \dots, X_n be normally distributed random variables with mean μ and variance σ^2 . Show that \bar{X} is $N(\mu, \frac{\sigma^2}{n})$.

(Hint: show that both have the same moment generating functions).

Problem 2. Do problem 5.7-5.

Problem 3. Do problem 5.7-10.

Problem 4. Do problem 5.7-17.

Problem 5. Do problem 6.1-4.

Problem 6. Do problem 6.1-10

Problem 7. Do problem 6.2-2.

Problem 8. Do problem 6.2-6.