Spring 2015, MATH 408, Exam 1

Monday, March 9, 2015; 12–12:50pm

Instructor — S. Lototsky (KAP 248D; x0-2389; lototsky@usc.edu)

Name:		

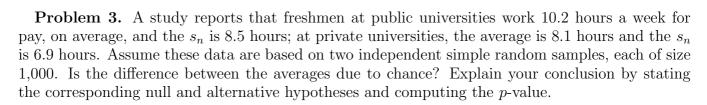
Circle the time of your discussion section: 8am 9am 10am

Instructions:

- No books or notes of any kind.
- Turn off cell phones.
- You should have (and use!) a calculator and three distribution tables: normal, t, and χ^2 .
- Answer all questions and clearly indicate your answers.
- Each problem is worth 10 points.
- Show your work! Points might be taken off for a correct answer with no explanations. Wrong answer with no explanations is worth zero points.

Problem	Possible	Actual
1	10	
2	10	
3	10	
4	10	
5	10	
Total	50	





Problem 4. For the first-year students at a certain university, the correlation between SAT scores and first-year GPA was 0.60. Assume the distribution of the scores is jointly normal. Predict the percentile rank on the first-year GPA for a student whose percentile rank on the SAT was 90%.

Problems 5. Let X_1, \ldots, X_n be a random sample from exponential distribution with mean θ . Construct the most powerful test of $H_0: \theta = \theta_0$ against $H_1: \theta = \theta_1 > \theta_0$.