STA261 L5101: Quiz 1

January 31st, 2018

Last Name:_____

First Name:_____

Student Number:_____

Do all questions. You may use a non-programmable calculator. Any other aids are prohibited. Use **pen**; questions done in pencil will be ineligible for remark requests. **Circle your final answer to each question**. The quiz is out of 10 points.

1. (4 points) Let $X_1 \dots X_n$ be independent continuous random variables with $E(X_i) = 0$ and $Var(X_i) = \sigma^2$. Let $\bar{X_n} = \frac{1}{n}\sum_{i=1}^{n} X_i$. Approximately evaluate $P(\bar{X}_n < 0)$ for $\sigma^2 = 1$ and $n = 100$. Your answer can be a number, or given in terms of the standard normal CDF.

1. (6 points) Let $X_i \sim Unif(0, b)$ independently (continuous uniform) so $E(X_i) = \frac{b}{2}$. Find a Method of Moments estimator for b.