STA261 L0101: Quiz 1

January 29th, 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 marks) Let $\{X_i\}$ be a sequence of independent random variables with $E(X_i) = \mu$ and $Var(X_i) = \sigma^2$. Let $\bar{X_n} = \frac{1}{n}\sum_{i=1}^{n} X_i$. Evaluate $\lim_{n\to\infty} P(|\bar{X_n} - \mu| > \epsilon)$ for any $\epsilon > 0$.

2. (6 marks) Let $X_i \sim Exp(\theta)$ independently, with $E(X_i) = 1/\theta$. Find a Method of Moments estimator for θ.