

**Stat 479**  
**Fall 2010**  
**Quiz 7**  
October 25, 2010

1. An urn contains four balls. Each ball has a unique number on it. The numbers on the balls are 2, 4, 6, and 8.

Two balls are drawn from the urn without replacement and the maximum number drawn is used to estimate the largest number on a ball in the urn.

Calculate the Mean Square Error of this estimator.

2. You are given the following sample of claims:

X: 8, 10, 13, 14, 15, 15, 16, 18, 20, 25

The sum of X is 154 and the sum of  $X^2$  is 2584.

$H_0$  is that  $\mu_x = 13$  and  $H_1$  is that  $\mu_x \neq 17$ .

Calculate the z statistic, the critical value(s) assuming a significance level of 10%, and the p value. State your conclusion with regard to the Hypothesis Testing.