Math 10B with Professor Stankova
Quiz 8; **Tuesday, 3/13/2018**
Section #211; Time: 11 AM
GSI name: Roy Zhao   **Name:** _____

Circle True or False or leave blank. (1 point for correct answer, -1 for incorrect answer, 0 if left blank)

1. True   False   The covariance can never be negative.

2. True   False   If we get a p value of 0.08 and our significance level is $\alpha = 0.05$, then we accept the null hypothesis.

Show your work and justify your answers. Please circle or box your final answer.

3. (10 points) (a) (3 points) You flip a coin 100 times and get 60 heads. What is the 95% confidence interval for what the true probability of getting heads is?

(b) (4 points) Is this enough data to say that the coin is biased towards heads with $\alpha = 0.05$? $z(2) = 0.4772$.

(c) (3 points) Use the χ^2 test on this coin flip example to determine if the coin is fair. For 1 degree of freedom, the critical value for $\alpha = 0.05$ is 3.841 and for 2 degrees, it is 5.991.