To: Professor Yuce

Applied Mathematics

New York City College of Technology

From: Brian Holliday

Applied Mathematics

New York City College of Technology

Subject: Lab 5: Calculating exact coverage probabilities of p^ and p~ in binomial distribution

Date: 2/11/20

Encl:

Ref: Figure 1: Coverage Probability graph

Summary:

This lab we are calculating the exact coverage probabilities of p\_hat and p\_curl. P\_hat is a point estimation of the coverage probabilty. This estimation is exact. P\_curl is a wald estimation which is an approximation of coverage probability. We were able to see in the last lab, p\_curl is a better estimation because it had less variation than the p\_hat estimation and it was consistantly closer to our confidence interval. This variance can be seen in the graph Figure 1 from n = 10 – 200. We also can see that for large n both p\_hat and p\_curl converge at 95 percent. This shows that for large n most of our data will fall in 95 percent interval with both estimations. This can be seen from about n = 500 – 1000.

