**Independent Practice**

Instructions: Submit this lab report to BlackBoard by 5PM on October 24. You should upload MS Word file with answers. In particular, questions must be properly numbered, and include graphs or tables as appropriate. Don't forget to include identifying information (Name, PUID, Section). The total possible point for this report is 10.

**Q1. Researchers studying the effect of antibiotic treatment compared to symptomatic treatment for acute sinusitis randomly assigned 166 adults diagnosed with sinusitis into two groups. Participants in the antibiotic group received a 10-day course of an antibiotic, and the rest received symptomatic treatments as a placebo. These pills had the same taste and packaging as the antibiotic. At the end of the 10-day period patients were asked if they experienced improvement in symptoms since the beginning of the study. The distribution of responses is summarized below.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Self Reportd: Improvement in Symptoms** | | | |
| **Treatment** |  | **Yes** | **No** | **Total** |
| **Antibiotic** | 66 | 19 | 85 |
| **Placebo** | 65 | 16 | 81 |
| **Total** | 131 | 35 | 166 |

(1) What proportion of patients in the antibiotic group and what proportion of patients in the placebo group reported an improvement in symptoms? (2pt)

(2) Compute the difference in the proportion of patients in the antibiotic group and what proportion of patients in the placebo group reported an improvement in symptoms. (2pt)

(3) What are the claims being tested? (2pt)

(4) Run simulation 1400 times and attach the screen capture of the output. (2pt)

(5) What do the simulation results from simulations suggest about the effect of antibiotics? (2pt)