

HOMEWORK 6

NOAH SILVERMAN

6.1.

- p-value is 0.7843 - the group means are not significantly different at the 0.90 level
- The smaller mean gland size may be a result of larger variance in group 1

6.2. The P-value of a two-sided test is 0.3836 - so there is no significant difference in the amount of bacteria living in sterile water and water with soap added.

6.3.

- Is there a difference in the amount of Ferulic acid between the two groups of corn (dark and light)
- A 91% CI is calculated as (0.3857407, 37.61426) with
 - $SE(\bar{x} - \bar{y}) = 9.219544$
 - $df = 6$ (Note: Using shortcut of $n_1 + n_2 - 2$)
 - Critical value is 2.019201
- An 83% CI is calculated as (4.626298, 33.3737)
 - Critical value is 1.559047

6.4.

- Is there a difference in the amount of Ferulic acid between the two groups of corn (dark and light)
- A 90% CI is calculated as (-0.09932724, 0.1993272) with
 - $SE(\bar{x} - \bar{y}) = 0.39$
 - $df = 37$ (Note: Using shortcut of $n_1 + n_2 - 2$)
 - Critical value is 1.687094
- The CI includes the value 0, so we can not conclude that there is any difference in body size between the two groups.