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The Average High Temperature in the Summer Season in Lancer Park

I chose to conduct two confidence intervals of the high temperatures in the summer season at Lancer Park over a two year time period and to compare the two. I chose this because it would help students who stay in Lancer Park over the summer figure out what they need to bring or what they need to do in a hotter setting. From the data that was collected, the parameter for the whole population is the true average high and low temperatures in degrees Celsius of the four different seasons in Lancer Park over a two year period.

The parameter for the sample I chose was the true average high temperature in degrees Celsius for the summer season in Lancer Park over a two year time period. I first put all the data into the calculator and I used a T-interval test and using a box plot and histogram, it showed no outliers but a slight left skew meaning the sample n had to be greater or equal to 40. This was a problem because the sample n was 25 and it needs to be redone. Another problem with this test is that it only had 25 days out of the whole season which makes it an under coverage bias. For the conditions of the test, the simple random sample is given in the description and sigma is unknown. For the first confidence interval test, I used a c-level of .90 and the mean of the sample is 30.1212 and the standard deviation is 3.7400. The confidence interval is between 23.841 and 31.401 and the error bound is 1.2789. I am 90% confident that the true average high temperature in degrees Celsius for the summer season in Lancer Park over a two year time period is between 28.841 degrees Celsius and 31.401 degrees Celsius. For the second confidence interval test, all the statistics and data were mostly the same except for that I chose a c-level of .95 and the confidence interval was between 28.577 and 31.665 giving it an error bound of 1.5438.

Both confidence intervals were very close because the two c-levels chosen were off by .05 which is not a very big significant difference. Both will be useful when a student stays over the summer for a summer class and needs to walk to campus from Lancer Park because the FAB doesn’t run over the summer. It would be useful for the students to know which days will be very hot or which days will be cooler to know what to wear so they don’t overheat. The confidence intervals will also be helpful when the peer mentors come for training and summer orientation over the summer and it will help them figure out what clothes to bring and what necessities they need for the hot days. The differences between the confidence intervals were that they were off by .05. Both confidence interval tests are very accurate but the second confidence interval test would be the most accurate because it is in a 95% confidence whereas the first one was only a 90% confidence. These confidence intervals will help students determine what to wear and what they should plan accordingly.

Appendix

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| Season | High Temp |
| Summer | 31.76 |
| Summer | 31.8 |
| Summer | 32.58 |
| Summer | 34.99 |
| Summer | 20.97 |
| Summer | 31.57 |
| Summer | 30.03 |
| Summer | 34.03 |
| Summer | 35.98 |
| Summer | 29.73 |
| Summer | 31.32 |
| Summer | 27.85 |
| Summer | 28.35 |
| Summer | 29.32 |
| Summer | 28 |
| Summer | 33.74 |
| Summer | 30.63 |
| Summer | 26.85 |
| Summer | 27.67 |
| Summer | 34.33 |
| Summer | 30.04 |
| Summer | 21.16 |
| Summer | 27.97 |
| Summer | 28.44 |
| Summer | 33.92 |