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MATH 1040

15 November 2016

Project Part 5 Revised

A confidence interval is a range of values so defined that there is a specified probability that the value of a parameter lies within it. It gives two points that are most likely to contain the value looking for.

The requirements for a confidence interval of a population proportion is that it has to be a Simple Random Sample, that $np(1-p)$ is $\geq 10$, and that n is $\leq 0.05N$. The requirements for a confidence interval of a population mean are that it needs to be a Simple Random Sample, that n is $\leq .05N$ and that it's a normal population or n is $\geq 30$.

Yellow candies confidence interval. STAT, TESTS, 1-PropZInt, X: 726, n: 3551, C-Level: .99, Calculate: (.18702, .22188).

This means that with 99% confidence we can determine that the true proportion of yellow candies is between .18702 and .22188.

Based on my interval for the true proportion of yellow candies, the proportion of yellow candies in the single bag of candy I purchased is not a likely value for the true population proportion. This is because my proportion of yellow candies was (10/59=).1694915 which is lower than the confidence interval previously mentioned.

STAT, TESTS, TInterval, Mean(x-bar): 59.183, s: 3.11, n: 60, C-Level: .95, Calculate: (58.38, 59.986).

This means that with 95% confidence, the mean number candies in the bags of Skittles is between 58.38 and 59.986, or 59 and 60 when rounded to the whole.

My bag contained 59 Skittles which is a likely value given the confidence interval.