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Week 7 Reading Questions

Q1

I do not believe the population mean affects the width of a confidence interval. The population mean simple determines where the center of the distribution lies, and therefore the highest probability density for a given observation value in the distribution.

Q2

As standard deviation increases, the width of the confidence intervals increase.

Q3

As population size increases, the width of the confidence interval increases as well.

Q4

As sample size increases and approaches the population size, the width of the confidence interval decreases. This is because standard error will stabilize and move closer to the true value.

Q5

A Frequentist paradigm is focused on repeatedly taking data from a subset of the entire population. This paradigm considers the frequency to which we can obtain a certain value. To explain this paradigm, we can imagine a group of 500 people with various heights. A Frequentist 95% confidence interval assumes that if we record the heights of a random number of people from this group multiple times, the average height of the 500 people would be included in that record 95% of the time.