For Questions 1 - 4, assume you are working with a population that is normally-distributed with mean μ and standard deviation σ. Note that although these population parameters exist, you cannot know their exact values and you must estimate them through sampling.

Q1 (1 pt.): Explain the effect, if any, of the population mean on the width of CIs for a population that is normally-distributed. If population mean does not affect the widths of CIs explain why not.

Q2 (1 pt.): Explain the effect, if any, of the population standard deviation on the width of CIs. If population standard deviation does not affect the widths of CIs explain why not.

Q3 (1 pt.): Explain the effect, if any, of the population size on the width of CIs. If population size does not affect the widths of CIs explain why not.

Q4 (1 pt.): Explain the effect, if any, of the sample size on the width of CIs. If sample size does not affect the widths of CIs explain why not.

Q5 (4 pts.): Interpreting a CI. Use a narrative example of a real (or made up) dataset to describe what a Frequentist 95% confidence interval really means.

Make sure you cover any relevant assumptions of the Frequentist paradigm.

You answer must be in non-technical language.

Imagine you were explaining confidence intervals to an audience of teenagers, or perhaps a family member who doesn’t have training in statistics.

Your explanation will be more successful if you use an example or describe your answer in the context of a real-life scenario rather than a purely theoretical explanation.