2510-001: PARTNER QUIZ 09 CONFIDENCE INTERVALS

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- Your name (print clearly in capital letters): _____
- This is a timed 15 minute partner quiz. Please find a partner.
- You will both receive the same grade.
- Thanks! Your partner's name (print clearly in capital letters): _____
- Note: You both will turn individual copies of this page.
- Please collaborate to write down 4 (total!) arguments to respond to the following questions.
- Each of your arguments will be graded out of 5 points (4 points for correctness, 1 point for "style").
- Y'all may split the writing any way y'all like. I will grade both pages at once.
- Y'all do not need to duplicate each other's arguments. I only need 4 arguments (total!) from the two of y'all (e.g., 2 from one person and 2 from another).

Graded Questions

(1) If the standard deviation of the population increases, what happens to the margin for error of a confidence interval based on a random sample of the population? Explain why or give an explicit example.

(2) If the sample size increases, what happens to the margin for error of a confidence interval based on the sample? Explain why or give an explicit example.

(3) If the level of confidence increases, what happens to the margin for error of a confidence interval based on a random sample? Explain why or give an explicit example.

(4) You may notice we do not ask a "necessary sample size" question for t intervals. Why is this? (It might help to remember the how to compute a t-interval from, say, $n = 25$ a sample size, $\overline{X} = 100$ a sample mean, and $S_{\overline{X}} = 10$ the sample standard deviation. *Which of Student's t-distributions did you need to use?*)