MTH 245, Quiz #8, Spring 2022 Name KEY

Instructions: Show all work (that work can be in the form of a spreadsheet submitted along with the quiz or done by hand on paper; if you use your calculator, say what functions you used). Report answers to the standard number of decimal places, or to the number requested in the problem. Be sure to answer all parts of the questions, including requests for interpretation and explanations. Be as thorough as possible.

1. Why are confidence intervals preferred over point estimates?

because information about accuracy is included which is not the case for a point estimate

2. A sample of 45 women is taken and their mean height is found to be 64.3 inches with a standard deviation of 3.2 inches. Find the 90% confidence interval.

(63.5, 65.1) or

(63.5, 65.1) t-score vs. z-score doesn't matter to one decimal

3. Would the 99% confidence interval be wider or narrower?

wider

4. Would the confidence interval for a sample of 250 people be wider or narrower?

narrower

5. 1500 Americans were asked if they thought the country was headed in the right direction, and 45% of respondents in that poll responded "yes". What is the 95% confidence interval for this result?

(0.4248, 0.4752)