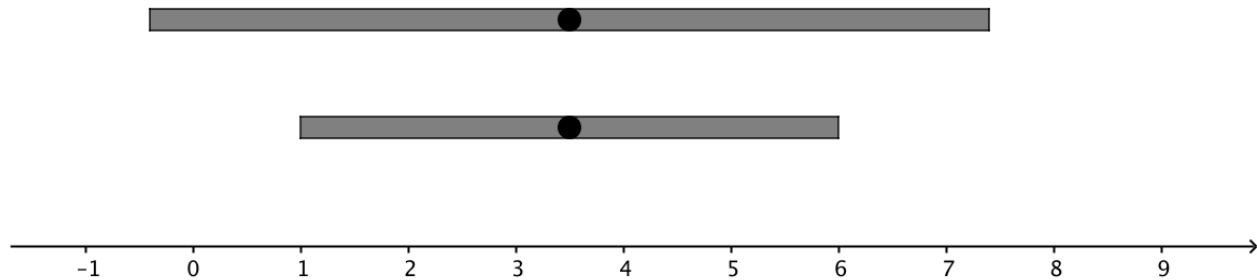


Name: _____

Date: _____

Practice quiz 6

1. Pollsters release the results of a question, “How many comic book conventions have you been to this year?”



They release the results in the form of a 95% and a 99% confidence interval but forgot to label which is which.

- A. Mark a value for the TRUE number of conventions which would be captured by the 99% confidence interval but NOT by the 95% interval.
- B. The pollsters did something “wrong” on the left-hand side, which makes no sense if you think about the real-world answer but makes sense statistically. What is the “wrong” thing they did, and what does it tell us statistically?
- C. What was the actual average number of conventions respondents went to in this sample?
- D. What is the approximate margin of error for the 95% confidence interval?
- E. If 1200 people were surveyed, what is the standard deviation of the sample?

2. What is the meaning of “95% confidence interval” versus “99% confidence interval”?
3.
 - A. How many people need to be surveyed in town of 10,000 people to have a margin of error of $\pm 7\%$?
 - B. How many people need to be surveyed in a state of 10 million people to have a margin of error of $\pm 7\%$?
 - C. What is the significance of the answers to (A) and (B)? Explain.
4. A survey is conducted of 577 people about how many pets they have. The $\bar{x} = 0.75$ and the $s = 1.2$.
 - A. Calculate the standard error.
 - B. Calculate the margin of error.
 - C. Calculate the 95% confidence interval.
 - D. Interpret the meaning of the 95% confidence interval.
5. Explain the importance of random sampling. Make sure you use the terms variability and bias in your answer.