The Gallup organization conducted a survey with a random sample of 1019 American adults on December 10-12, 2010. They found that 80% of the respondents agreed with the statement that “the United States has a unique character that makes it the greatest country in the world.”

1. Use this sample result to determine a 99% confidence interval.

2. Interpret what this interval says: We can be 99% confident that ….

3. Does this confidence interval mean that if the Gallup organization were to take a new random sample of 1019 adult Americans, there’s a 99% chance that the sample proportion who would agree with the statement would fall within the confidence interval? Explain your answer.

4. The Gallup poll also reported that 91% of the respondents who identified themselves as Republicans agreed with the statement. What additional information would you need to know in order to determine a 99% confidence interval for the population proportion of Republicans who agree with the statement?

5. Even without knowing this additional information (that you identified in #4), think about the 99% confidence intervals asked about in #1 and #4. Comment on how the midpoints and margins-of-error for these two confidence intervals would compare to each other. Explain your answers.