Application exercise 5.1:
Inference for a single proportion

Team name: _____

Lab section: 8:30   10:05   11:45   1:25   3:05

Write your responses in the spaces provided below.   WRITE LEGIBLY and SHOW ALL WORK! Only one submission per team is required.   One team will be randomly selected and their responses will be discussed and graded. Concise and coherent are best!

Nearly one-in-five U.S. adults (18%) say they've seen or been in the presence of a ghost, according to a 2009 Pew Research Center survey. The survey was conducted on 2,003 randomly sampled Americans.

Source: http://www.pewresearch.org/fact-tank/2013/10/30/18-of-americans-say-theyve-seen-a-ghost/

Don't forget to check the conditions when completing the following tasks.

1. You are asked to write a newspaper article about the percentage of people who say they've seen or been in the presence of a ghost. You, obviously, shouldn't just report the point estimate from the survey, but instead also provide a margin of error around it. Report the findings in one sentence at the 95% confidence level.

2. Gale Weathers, news reporter for a local news program called *Top Story*, wants to report a similar estimate for residents her local area of Woodsboro, CA. Gale has no reason to believe that Woodsboro residents are different from the rest of the US population on the issue of seeing ghosts. She is ok with reporting a margin of error up to 4%, and she is wondering if she can get away with collecting data from a smaller sample. Can you help her out? How many people, at a minimum, should Gale sample?

3. Paranormal researcher Dr. Peter Venkman claims that more than 15% of Americans have seen or been in the presence of a ghost. Do these data provide convincing evidence to support Dr. Venkman's claim?

4. **Extra credit:** Who are Gale Weathers and Dr. Peter Venkman?