Statistics

Test 4

Form A

Spring 2016

Name: _____

Date: _____

READ THESE INSTRUCTIONS CAREFULLY!

- Circle or underline your final written answer.

- Justify your reasoning and show your work.

- If you run out of space, make a note and continue your work on the back of a page.

1. (10 pts.) In a recent survey of 1003 people, 59% said that they have never hesitated to give a handshake due to a fear of germs. Construct a 95% confidence interval for the proportion of all people who have never hesitated to give a handshake due to a fear of germs.

2. (10 pts.) During a given 11 year period in Hidalgo County, Texas, 870 people were selected for grand jury duty, and 39% of them were Americans of Mexican descent.

    (a) Assuming that grand jury members are representative of the larger county population, construct a 99% confidence interval for the proportion of Hidalgo county residents who are of Mexican descent.

    (b) Among the people in Hidalgo county who were eligible for grand jury duty, 79.1% were Americans of Mexican descent. What, if anything, does this suggest about the result of part (a)?

3. (10 pts.) A survey of 427 women found that 29% purchase books online.

    (a) Among the 427 women surveyed, how many purchased books online?

    (b) Construct a 95% confidence interval for the percentage of all women who purchase books online.

4. (10 pts.) An opinion poll found that out of 1005 American respondents, 543 said that they felt safer knowing that the U.S. has nuclear weapons. Construct an 80% confidence interval for the true proportion of Americans who feel safer with nuclear weapons.

5. (10 pts.) A recent survey of 1002 people found that 70% voted in the last presidential election. Voting records show that 61% of eligible voters actually did vote.

    (a) Using the survey data, find a 98% confidence interval for the proportion of people who claim to have voted.

    (b) Are the survey results consistent with the actual voter turnout of 61%? Why or why not?

6. (10 pts.) Hispanic voters are an increasingly important demographic in U.S. national elections. In 2012, President Obama won this group with 71% of the vote. A recent poll of 1204 Hispanic adults found that 77% had an unfavorable view of presidential candidate Donald Trump. Construct a 95% confidence interval for the true percentage of Hispanic adults who have an unfavorable view of Donald Trump.