Statistics: Review for 6.2 Quiz

Assume .4231 < p < .5017 is the 95% confidence interval for the population probability that a student at Cypress Bay has a job.

1. Express the confidence interval in the form of $\hat{p} \pm E$.

2. Write a statement that interprets the confidence interval.

Mr. Neely wants to estimate the number of students who work.

3. How many randomly selected students must be surveyed in order to be 94% confident that the sample percentage has a margin of error of 5%.

4. Assume that a study of students in Broward County indicated that 37% of students work. How many students would Mr. Neely have to survey?

In a survey of 3002 Broward county residents, 912 said they voted in the primary. Voting records show that 34% of eligible voters actually did vote.

5. What is the point estimate?

6. Find a 99% confidence interval estimate of the proportion of people who say that they voted.

7. Are the survey results consistent with the actual turnout of 34%? Why or why not?

About 28% of U.S. households turn out the lights and pretend not to be at home on Halloween. Lola interviewed a random sample of 35 households in Hollywood and found that 11 of them actually pretended not to be home.

8. What assumptions are necessary to calculate the confidence interval?

9. Compute a 90% confidence interval for p, the proportion of all households in Hollywood that pretend no one is home on Halloween.

Answers

1. .4624 +/- .0393
2. I am 95% confident that the true proportion of CB students that have a job is between .4231 and .5017.
3. 354
4. 330
5. 912/3002 ; .303797
6. .282 < p < .325
7. No. 34% is not in the confidence interval
8. SRS; binomial; np > 5 and nq > 5
9. (.185, .443)