

Quiz 12 Review

Name: _____

Confidence Intervals of Proportions

Date: _____ Period: _____

Vocabulary

1. The symbol used to denote a population proportion is _____.
2. The symbol _____ is used to denote a sample proportion.
3. \hat{q} can be found using the equation _____.
4. The formula used to find the confidence interval of a proportion is _____.
5. \hat{p} can be found using the equation _____.

Work Problems

67-68 Confidence Intervals for Proportions.

(ROUND TO THREE DECIMAL PLACES!)

$$\text{Formula: } \hat{p} - Z_{\alpha/2} \sqrt{\left(\frac{\hat{p} \cdot \hat{q}}{n}\right)} < p < \hat{p} + Z_{\alpha/2} \sqrt{\left(\frac{\hat{p} \cdot \hat{q}}{n}\right)}$$

6. A political analyst found that 60% of 300 Republican voters believe that the federal government has too much power. Find the 95% confidence interval of the population proportion of Republican voters who feel this way.
7. A recent study of 75 workers found that 53 people rode the bus to work each day. Find the 98% confidence interval of the proportion of all workers who rode the bus to work.
8. A nutritionist wishes to determine the true proportion of adults who do not eat any lunch. He wishes his estimate to be 90% confident that it contains the population proportion. A previous study found that 15% of the 125 people surveyed said that did not eat lunch.
9. A researcher wants to be 99% confident in an estimate of the true proportion of women who are over 55 who are widows. A recent study indicated that 29 of the 100 women over 55 in the study were widows.