Time Frame: 50 minutes

Subject Matter: Confidence Interval for a Proportion TELL ME

Objective: TSWBAT find the confidence of interval for a proportion.

Standards: DA – 4.9

 Materials: PowerPoint Presentation, Calculator, and Worksheets

SHOW ME

Presentation of Information

Using the statistics tool of the TI – 83 Calculator the teacher will discuss the following.

Example 1:

A sample of 500 nursing applicants included 60 from men. Find the 90% confidence of interval of the true proportion of men who applied to the nursing program.

Example 2:

A survey of 200,000 boat owners found that 12% of the pleasure boats were named *Serenity.* Find the 95% confidence interval of the proportion of boats named *Serenity.*

*Source: USA Today Snapshot.*

Let Me Try

1. A U.S. Travel Data Center survey conducted for *Better Homes and Gardens* of 1500 adults found that 39% said they would take more vacations this year than last year. Find the 95% confidence interval for the true proportion of adults who said that they will travel more this year.

*Source: USA Today*

1. A recent study of 100 people in Miami found 27 were obese. Find the 90% confidence interval of the population proportion of individuals living in Miami who are obese.

*Source: Based on the information from the Center of the Disease Control and Prevention, USA TODAY*

1. The proportion of students in private schools is around 11 percent. A random sample of 450 students from a wide geographic area indicated that 55 attended private schools. Estimate the true proportion of students attending private schools with 95% confidence.

*Source: National Center for Education Statistics (nces.ed.gov)*

1. A survey found that out of 200 workers, 168 said they were interrupted three or more times an hour by phone messages, faxes, etc. Find the 90% confidence interval of the population proportion of workers who are interrupted three or more times an hour.

*Source: based on information from USA TODAY Snapshot*

1. A CBS News/N.Y. Times poll found that 329 out of 763 adults said they would travel to outer space in their lifetime, given the chance. Estimate the true proportion of adults who would like to travel to outer space with 92% confidence.

*Source: www.pollingreport .com*

1. A survey of 80 recent fatal traffic accidents showed that 46 were alcohol – related. Find the 95% confidence of interval of the true proportion of fatal alcohol – related accidents.
2. A survey of 90 families showed that 40 owned at least one gun. Find the 95% confidence interval of the true proportion of families who owns at least one gun.
3. In a certain state, a survey of 500 workers showed that 45% belonged to a union. Find the 90% confidence of interval of the true proportion or workers who belong to a union.
4. In a Gallup Poll of 1005 individuals, 452 thought they were worse off financially than a year ago. Find the 95% confidence interval of the rue proportion of individuals that feel they are worse off financially.

*Source: Gallup Poll*

1. In a poll of 1000 likely voters, 560 say that the United States spends too little on fighting hunger at home. Find the 95% confidence interval of the true proportion of voters who feel this way.

*Source: Alliance to End Hunger.*