

STATION 1:

In a sample of 81 SARS patients, the mean incubation period was 4.6 days with a standard deviation of 15.9 days. Construct a 95% confidence interval for the population mean and interpret the results.

STATION 2:

A publisher wants to estimate the mean length of time (in minutes) all adults spend reading newspapers. To determine this estimate, the publisher takes a random sample of 15 people and obtains the following results:

11, 9, 8, 10, 10, 9, 7, 11, 11, 7, 6, 9, 10, 8, 10

Assume the population of times is normally distributed.

- a. Should you use normal distribution or t-distribution? Why?
- b. Construct a 95% CI for the mean population length reading time and interpret the results.

STATION 3:

Based on a sample of 100 employees, a 95% CI is calculated for the mean age of all employees at a large firm.

The CI is (34.5 years, 47.2 years).

- a. What is the sample mean?
- b. What is the margin of error?

STATION 4:

A soccer ball manufacturer wants to estimate the mean circumference of soccer balls within 0.1 inch.

Determine the minimum sample size needed to construct a 99% CI for the population mean. Assume the population is normally distributed and the population standard deviation is 0.25 inch.

STATION 5:

In 2001, a Gallup poll surveyed 1016 households in the U.S. about their pets. Of those surveyed, 599 said they had at least one dog or cat as a pet. Find and interpret the 90% confidence interval for the population proportion.

STATION 6:

You wish to estimate, with 95% confidence, the proportion of computers that need repairs or have problems by the time the product is three years old. Your estimate must be accurate within 3% of the true proportion.

- a. If no preliminary estimate is available, find the minimum sample size.
- b. Find the minimum sample size needed, using a prior study that found that 19% of computers needed repairs or had problems by the time the product was three years old.

STATION 7:

In a survey of 1383 adults in Kansas, 1079 favor increasing state funding for research on wind technology. Construct a 90% CI for the population proportion. Interpret the results.

STATION 8:

A previous study found that 27% of adults claim chocolate is their favorite flavor of ice cream. Determine the minimum sample size needed to estimate the true population proportion with 99% confidence and accurate within 4% of the true proportion.

STATION 9:

In a survey of 7000 women, about 63% change their nail polish once a week. Construct a 95% confidence interval for the population proportion and interpret the results.

STATION 10:

In a random sample of eight people, the average commute time to work was 35 minutes. Assume the population standard deviation is 7.2 minutes.

Assume the commute times are normally distributed. Construct a 95% confidence interval for the population mean and interpret the results.