1. Find the margin of error for the given values of c, s and n.

c= 0.90 s=2.7 n=49

E=? Round to three decimal places as needed.

1. Contruct the confidence interval for the population mean u.

C= 0.98, x=8.2, s=0.4 and n=53

A 98% confidence interval for u is?

Round to two decimal places as needed

1. Contruct the confidence interval for the population mean u.

C= 0.90, x=15.7, s=5.0 and n=75

A 90% confidence interval for u is?

Round to two decimal places as needed

1. Use the confidence interval to find the estimated margin of error. The find the sample mean. A Biologist reports a confidence interval of (1.6, 2.8) when estimation the mean height ( in centimeters) of a sample of seedlings. The estimated margin of error is?
2. Find the minimum sample size n needed to estimate u for the given values of c, s, and E. C=0.98, s=6.6 and E=1. Assume that a preliminary sample has at least 30 members. N=?

 Round up to the nearest whole number.

1. You are given the sample mean and the sample standard deviation. Use this information to construct the 90% and 95% confidence intervals for the population mean. Interpret the results and compare the widths of the confidence intervals. If convenient, use technology to construct the confidence intervals. A random sample of 40 home theater system has a mean price of $114.00 and a standard deviation is $18.80. Construct a 90% confidence interval for the population mean. The 90% confidence interval is? Round to two decimal places as needed.
2. You are given the sample mean and the sample standard deviation. Use this information to construct the 90% and 95% confidence intervals for the population mean. Which interval is wider? If convenient, use technology to construct the confidence intervals. A random sample of 35 gas grills has a mean price of $634.10 and a standard deviation of $ 56.10. The 90% confidence interval is? Round to two decimal places as needed.
3. You are given the sample mean and the sample standard deviation. Use this information to construct the 90% and 95% confidence intervals for the population mean. Which interval is wider? If convenient, use technology to construct the confidence intervals. A random sample of 40 eight-oz servings of different juice drinks has a mean price of 90.3 calories and a standard deviation of 43.9 calories. The 90% confidence interval is? Round to two decimal places as needed.
4. People were polled on how many books they read the previous year. How many subjects are needed to estimate the number of books read the previous year within one book with 90% confidence? Initial survey results indicate that o=12.3 books. How many subject s does a 90 % confidence level requires ? Round up to the nearest whole number as needed.
5. A doctor wants to estimate the HDL cholesterol of all 20 to 29 year old females. How many subjects are needed to estimate the HDL cholesterol within 2 points with 99% confidence assuming o= 17.3? Suppose the doctor would be content with 90% confidence. How does the decrease in confidence affect the sample size required? How many subject s does a 99 % confidence level requires ? Round up to the nearest whole number as needed.
6. Construct the indicated confidence interval for the population mean u using (a) a t-distrubution. (b) If you had incorrectly used a normal distribution, which interval would be wider?

C= 0.90, x=13.3, s=3.0, n=8

1. The 90% confidence interval using a t-disribution is?
2. In the following situation, assume the random variable is normally distributed and use a norma distributionor a t-distribution to construct a 90% confidence interval for the population mean. If convenient, use technology to construct the confidence interval.

(a) In a random sample of 10 adults from a nearby county, the mean waste generated per person per day was 3.65 pounds and the standard deviation was 1.98 pounds. (b) Repeat part (a), assuming the same statistics came from a sample size of 400. Compare the results.

(a) For the sample of 10 adults, the 90% confidence interval is? Round to tow decimal places as needed.

13. Use the given confidence interval to find the margin of error and the sample proportion. (0.768,0794) E=?

1. In a survey of 649 males ages 18-64, 399 say they have gone to the dentist in the past year. Construct 90% and 95% confidence intervals for the population proportion. Interpret the results and compare the widths of the confidence intervals. If convenient, use technology to construct the confidence intervals. The 90% confidence interval for the population proportion p is? Round the final answers to the nearest thousandth as needed. Round all intermediate values to the nearest thousandth as needed.
2. In a survey of 9000 women, 6431 say they change their nail polish once a week. Construct a 95% confidence interval for the population proportion of women who change their nail polish once a week. A 95% confidence interval for the population proportion is? Round the final answers to the nearest thousandth as needed. Round all intermediate values to the nearest thousandth as needed.
3. A researcher wishes to estimate, with 95% confidence, the proportion of adults who have high-speed Internet access. Her estimate must be accurate within 2% of the true proportion.
4. Find the minimum sample size needed, using a prior study that found that 52% of the respondents said they have high-speed Internet access.
5. No preliminary estimate is available. Find the minimum sample size needed.
6. What is the minimum sample size needed using a prior study that found that 52% of the respondents said they have high-speed Internet access? N=? (Round up to the nearest whole number as needed)
7. The table below shows the results of a survey in which 2563 adults from Country A, 1107 adults from Country B, and 1050 adults from Country C were asked if human activity contributes to global warming. Complete parts (a), (b), and (c).

(a)Construct a 99% confidence interval for the proportion of adults from Country A who say human activity contributes to global warming.

**Table**

**Adults who say that human activity contributes to global warming**

|  |  |
| --- | --- |
| Country A | 69% |
| Country B | 86% |
| Country C | 91% |

1. The table shows the results of a survey in which separate samples of 400 adults each from the East, South, Midwest, and West were asked if traffic congestion is a serious problem in their community. Complete parts (a) and (b).

**Adults who say that traffic congestion is a serious problem**.

East 36%

South 33%

Midwest 26%

West 56%

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