Take Test: Chapter 8 Confidence Interval exercise

Test Information

Description	
Instructions	
Multiple Attempts	This test allows multiple attempts.
Force Completion	This test can be saved and resumed later.

≫ Question Completion Status:

QUESTION 1   **1 points**   Saved

First a 90% confidence interval is constructed from a sample size of 100. Then, for the same identical data, a 92% confidence interval is constructed. The width of the 90% interval is wider than the 92% confidence interval.

○ True

◉ False

QUESTION 2   **1 points**   Saved

When the sample size and sample standard deviation remain the same, a 99% confidence interval for a population mean, μ will be narrower than the 95% confidence interval for μ.

◉ True

Click Save and Submit to save and submit. Click Save All Answers to save all answers.   Save All

QUESTION 3

1 points   Saved

The t distribution approaches the _____ as the sample size _____.

○ Binomial, increases

○ Binomial, decreases

○ Z, decreases

◉ Z, increases

QUESTION 4

1 points   Saved

There is little difference between the values of $t_{\alpha/2}$ and $z_{\alpha/2}$ when:

❯ Question Completion Status:

◉ The sample size is large

○ The sample mean is small

○ The sample mean is large

○ The sample standard deviation is small

QUESTION 5

1 points   Saved

A company is interested in estimating μ, the mean number of days of sick leave taken by its employees. The firm's statistician randomly selects 100 personnel files and notes the number of sick days taken by each employee. The sample mean is 12.2 days and the sample standard deviation is 10 days. Calculate a 93% confidence interval for μ, the mean number of days of sick leave. **Assume the population standard deviation is 10.**

○ [10.725 13.675]

◉ [10.390 14.010]

○ [12.019 12.381]

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QUESTION 6

1 points Saved

The state highway department is studying traffic patterns on one of the busiest highways in the state. As part of the study, the department needs to estimate the average number of vehicles that pass an intersection each day. A random sample of 64 days gives us a sample mean of 14,205 cars and a sample standard deviation of 1,010 cars. What is the 92% confidence interval estimate of μ, the mean number of cars passing the intersection? **Assume the population standard deviation is 1010.**

○ [12,438 15,972]

○ [14,028 14,382]

○ [12,189 14,221]

≫ Question Completion Status:

○ [14,183 14,227]

QUESTION 7

1 points Saved

A random sample of size 30 from a normal population yields $\bar{X}$ = 32.8 with a population standard deviation of 4.51. Construct a 95 percent confidence interval for μ .

○ [23.96 41.64]

○ [32.04 33.56]

○ [31.45 34.15]

⦿ [31.19 34.41]

QUESTION 8

1 points Saved

A sample set of weights in pounds are 1.01, .95, 1.03, 1.04, .97, .97, .99, 1.01, and 1.03. Assume the

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○ [.973 1.027]

○ [.941 1.059]

QUESTION 9

1 points   Saved

A sample of 8 items has an average fat content of 18.6 grams and a standard deviation of 2.4 grams. Assuming a normal distribution, construct a 99 percent confidence interval for μ .

○ [16.06 21.14]

○ [16.42 20.78]

● [15.63 21.57]

⯆ Question Completion Status:

QUESTION 10

1 points   Saved

A sample of 12 items yields $\bar{X}$ = 48.5 grams and s = 1.5 grams. Assuming a normal distribution,

construct a 90 percent confidence interval for the population mean weight.

● [47.722 49.278]

○ [47.788 49.212]

○ [45.806 51.194]

○ [47.865 49.135]

QUESTION 11

1 points   Saved

Find a 99 percent confidence interval for μ if $\bar{X}$ = 98.6, s = 2, and n = 5. Assume that the sample is

randomly selected from a normally distributed population.

○ [95.69 101.51]

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