L10A HW

- Due Feb 16 at 11:59pm
- Points 16
- Questions 16
- Time Limit None
- Allowed Attempts 4

Instructions

You get two attempts on all homework quizzes.

In all quizzes and homeworks in this course, round your answers to THREE DECIMAL places unless otherwise indicated.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	4 minutes	16 out of 16
LATEST	Attempt 2	4 minutes	16 out of 16
	Attempt 1	30 minutes	14.5 out of 16

ⓘ Answers will be shown after your last attempt

Score for this attempt: 16 out of 16
Submitted Feb 13 at 1:38pm
This attempt took 4 minutes.

Question 1
1 / 1 pts
Which of the following is NOT a requirement to construct a 95% confidence interval for the mean?

- The distribution is normal or approximately normal.
- The data is a simple random sample.

The distribution is right skewed.

Use the following file: **FactoryAssemblyTimes-sim.xlsx** (https://byui.instructure.com/courses/398828/files/159316652/download?wrap=1) (https://byui.instructure.com/courses/398828/files/159316652/download?download_frd=1) to answer all the parts that follow regarding the pre-assembly change variable.

Question 2
1 / 1 pts

Part 1: Find a 90% confidence interval for the pre-assembly change variable.

Input the lower bound.

28.691

Question 3
1 / 1 pts

Input the upper bound.

57.265

Question 4
1 / 1 pts

Part 3: What is the sample mean of that variable?

42.978

Open the file **UsedHummersNYandLA.xlsx** (https://byui.instructure.com/courses/398828/files/159316650/download?wrap=1) (https://byui.instructure.com/courses/398828/files/159316650/download?download_frd=1)

Use this file for all the parts.

Question 5
1 / 1 pts

Part 1: Find a 95% confidence interval for the mean price of hummers.

Input the lower bound:

40,139.659

Question 6

1 / 1 pts

Input the upper bound:

43,302.984

Question 7

1 / 1 pts

Part 2: Assuming the hummers came from a random sample, are the requirements for the confidence interval satisfied?

- No, the histogram looks like it is right skewed.
- No, the histogram looks like it is left skewed.
- No, I don't know the standard deviation.
- Yes they are since the sample size is large.

10 measurements are taken of the thickness of a piece of 18-gauge sheet metal. The measurements (in mm) are: 1.32, 1.31, 1.33, 1.34, 1.39, 1.37, 1.35, 1.33, 1.31, 1.34. Use this information for all the parts.

Question 8

1 / 1 pts

Part 1: Find a 90% confidence interval for the mean thickness of this sheet metal.

Input the lower bound:

1.324

Question 9

1 / 1 pts

Input the upper bound:

1.354

Question 10

1 / 1 pts

Part 2: Based on your confidence interval is it possible for the actual thickness to be 1.39?

- (●) Yes it is possible, but not very likely.
- ( ) No, it is absolutely not possible.

Question 11

1 / 1 pts

Part 3: What does the confidence interval you constructed mean?

- (●) We are 90% confident the the true mean thickness is between the two numbers.
- ( ) The true mean thickness is definitely between the two numbers.
- ( ) There is no way the mean thickness would be more than 1.36.
- ( ) We are 90% confident that the sample mean thickness is between the two numbers.

Question 12

1 / 1 pts

The Student's T-Distribution gets closer to the normal distribution for large sample sizes, but they are never really the same.

- (●) True
- ( ) False

Question 13

1 / 1 pts

The student's t-distribution changes depending on the degrees of freedom.

- (●) True
- ( ) False

Given that a 90% confidence interval for the mean lifetime of a light bulb in hours was (121.5, 132.1). Use this information for all the parts.

Question 14

1 / 1 pts

Part 1: Which of the following is a good interpretation for this confidence interval **(Mark all that apply)**

- [ ] 90% of our data falls between 121.5 and 132.1 hours.
- [ ] We are 90% confident that the sample mean lifetime of those bulbs falls between 121.5 and 132.1 hours.
- [x] We are 90% confident that the population mean lifetime of those bulbs falls between 121.5 and 132.1 hours.
- [ ] The population mean could not possibly be 150 hours.
- [x] 90% of the 90% confidence intervals that could be calculated will contain the true population mean.

Question 15

1 / 1 pts

Part 2: What was the sample mean used to calculate the above confidence interval?

126.8

Question 16

1 / 1 pts

Part 3: What was the margin of error used in calculating the above interval?

5.3

Quiz Score: 16 out of 16