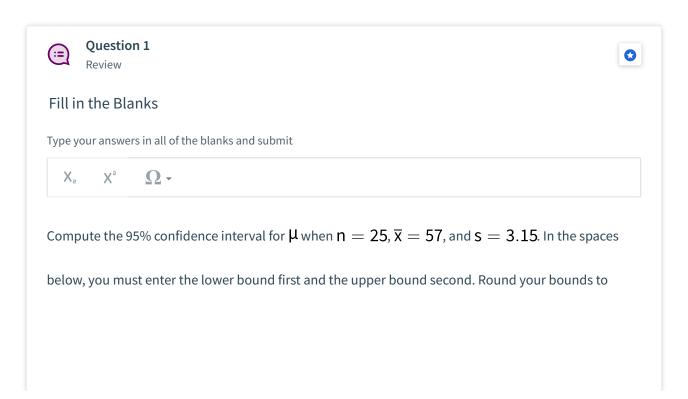
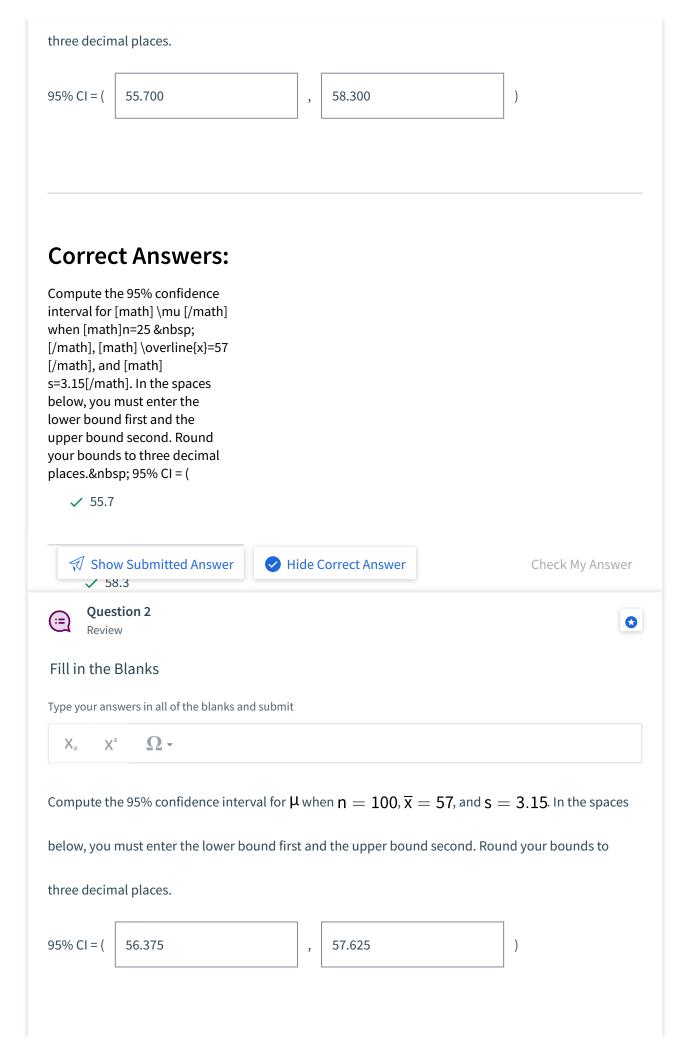
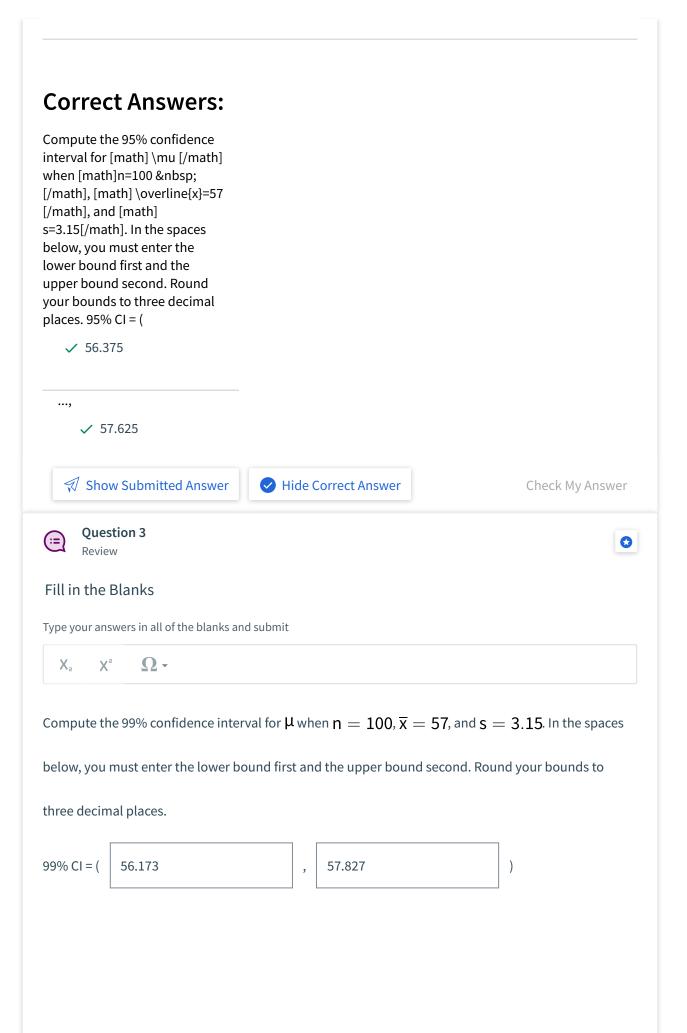


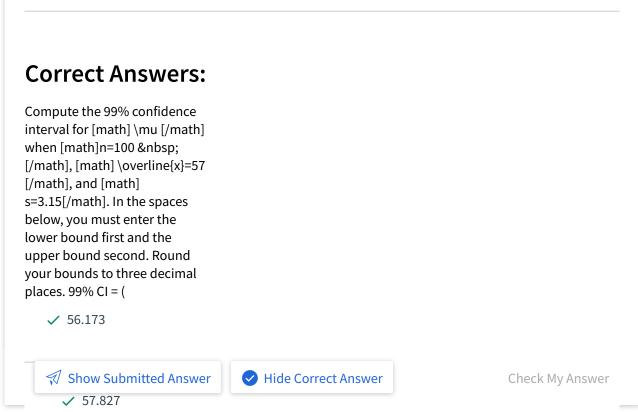
## Problem Set #5 - Confidence Intervals

Use the following information for the next three questions: A confidence interval is desired for the true average stray-load loss  $\mu$  (watts) for a certain type of induction motor when the line current is held at 10 amps for a speed of 1500 rpm. It is known that the distribution of stray-load loss is approximately normal.

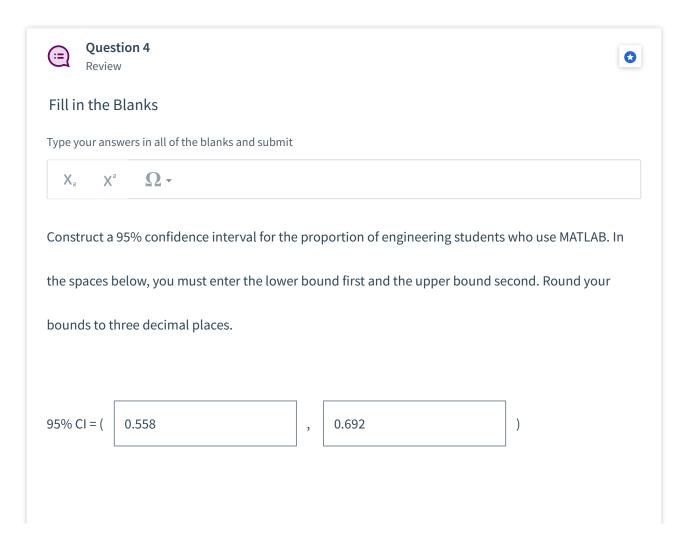








**Use the following information for the next three questions:** In a survey of 200 randomly selected engineering students from universities across the country, 125 reported that they use MATLAB for their coursework.



Construct a 95% confidence				
nterval for the proportion of engineering students who use				
MATLAB. In the spaces below, you must enter the lower				
oound first and the upper oound second. Round your				
pounds to three decimal places. 95% CI = (				
✓ 0.558				
,				
✓ 0.692				
	e Correct Answer		Check My Ar	new/or
Question 5 Review Fill in the Blanks	e correct Answer		CHECK My AI	iswei
Question 5 Review Fill in the Blanks	e correct Answer		CHECK My AI	(C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit	e correct Answer		CHECK My AI	iswei
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X <sub>2</sub> X <sup>2</sup> \Q \( \bigcup \)		neering students who		C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X   X    Construct a 99% confidence interval for the page 2.	proportion of engi	-	o use MATLA	C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X <sub>2</sub> X <sup>2</sup> Q  Construct a 99% confidence interval for the point the following interpretation for the confidence in the co	proportion of engi	-	o use MATLA	C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit	proportion of engi	-	o use MATLA	C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X = X = \Omega = \Construct a 99% confidence interval for the point the following interpretation for the confidence in t	proportion of engi	-	o use MATLA	C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X <sub>2</sub> X <sup>2</sup> \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	proportion of engi	-	o use MATLA	C
Question 5 Review  Fill in the Blanks  Type your answers in all of the blanks and submit  X <sub>2</sub> X <sup>2</sup> Q  Construct a 99% confidence interval for the part of the following interpretation for the confidence interval places.	proportion of engi ence interval. Rou	nd any numerical val	o use MATLA	B. Fill

## **Correct Answers:**

Construct a <strong>99% </strong> confidence interval for the proportion of engineering students who use MATLAB. Fill in the following interpretation for the confidence interval. Round any numerical values to three decimal places.&nbsp; We are 99%

✓ confident
 ...that the true
 ✓ proportion
 ...of all engineering students who use MATLAB is between
 ✓ 0.537
 ...and
 ✓ 0.713
 ...with a point estimate of
 ✓ 0.625



Check My Answer



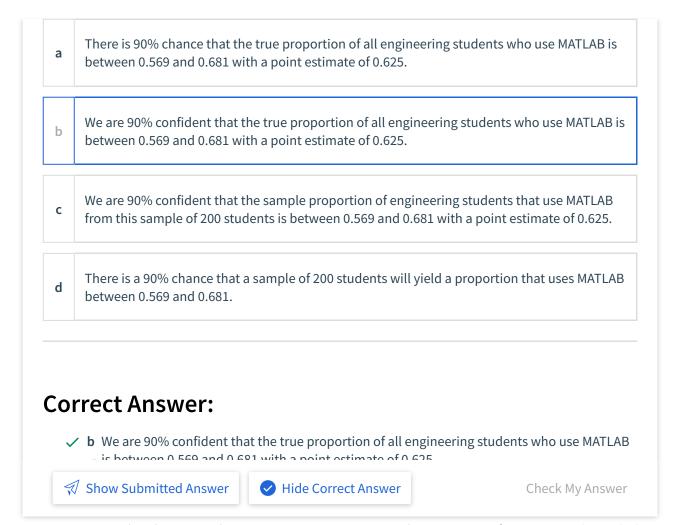
Question 6 Review

**∜** Show Submitted Answer



Construct a **90**% confidence interval for the proportion of engineering students who use MATLAB. Select the following conclusion based on the 90% confidence interval.

Select an answer and submit. For keyboard navigation, use the up/down arrow keys to select an answer.



**Use the following information for the next two questions:** A manufacturer produces light bulbs and claims that 80% of bulbs last more than 1000 hours. A sample of 75 light bulbs is randomly selected and tested, and it is found that 62 bulbs last more than 1000 hours.

