

 Lagunita is retiring and will shut down at 12 noon Pacific Time on March 31, 2020. A few courses may be open for self-enrollment for a limited time. We will continue to offer courses on other online learning platforms; visit <http://online.stanford.edu>.

Course > Inference: Estimation > Estimation: Population Mean > Extra Problems

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Extra Problems

These extra questions are here to give you more practice if you feel you need it. No new concepts are introduced on this page. If you've "got it", go ahead and move on to the next page. If you'd like a little more practice, work through the questions below.

Scenario: Hours Spent Studying

In a recent study of 500 randomly selected statistics students, they were asked the number of hours per week they spend studying for their statistics classes. The results were used to estimate the mean time for all statistics students with 90%, 95% and 99% confidence intervals. These were (not necessarily in the same order):

(7.5, 8.5) (7.6, 8.4) (7.7, 8.3)

Question

1/1 point (graded)

Which interval is the least precise estimation of the population mean?

☒ (7.5, 8.5) ✓

☐ (7.6, 8.4)

☐ (7.7, 8.3)

Answer

Correct:

Since this is the widest confidence interval, it is the one that provides the **least** precise estimation of the unknown mean.

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Question

1/1 point (graded)

The confidence interval you just chose must be:

☐ the 90% confidence interval

☐ the 95% confidence interval

☒ the 99% confidence interval ✓

Answer

Correct:

The less precise we are willing to be, the wider the interval, and the more confident we will be about our estimate of the population mean.

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Question

1/1 point (graded)

If we were to estimate the mean time with a 93% confidence interval, which of these could be that interval?

☐ (7.45, 8.55)

☐ (7.55, 8.45)

☒ (7.65, 8.35) ✓

☐ (7.625, 8.475)

☐ (7.75, 8.25)

Answer

Correct:

The 93% confidence interval should be wider than the 90% confidence interval (7.7, 8.3), but narrower than the 95% confidence interval (7.6, 8.4), and should be centered around 8.

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