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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.

Question

1/1 point (graded)

What is the minimum sample size necessary to estimate the proportion of automobile accidents that are caused by an intoxicated driver, if we want to be 95% confident to within 2% of the true proportion?

- (•) 2,500 ✔
- ( ) 50
- ( ) 25
- ( ) 5

Answer

Correct: The sample size should be at least $1 / (0.02)^2 = 2{,}500$.

Submit

Question

1/1 point (graded)

If we use a sample size of 1,500 instead of 2,500, while keeping the confidence level at 95%, what will be the margin of error?

- 0.02%
- 0.07%
- 2.6% ✔
- 5.2%

Answer
Correct: Indeed, this is how we find the margin of error: m = 1 / sqrt(n) = 1 / sqrt(1,500) = 0.026 = 2.6%

Submit

Question

1/1 point (graded)
Recall that when using a 95% confidence level, to achieve a 2% margin of error, we must have a minimum sample size of 2,500. If we are willing to increase the desired margin of error (to be larger than 2%), the sample size that we need will:

- decrease ✔
- increase
- not be affected

Answer
Correct:
The intuitive explanation is that if we are willing to accept a larger error, we can sample fewer subjects. Conversely, to be more precise, we must sample more subjects.

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