Data Analysis and Statistical Inference
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In-Video Quiz Questions for
Unit 3: Part 2 – (3) Required Sample Size for ME

(00:44) – slide 2, after "We do this by plugging known values into the equation of the margin of error and then rearranging things to solve for the unknown and the sample size."

1. With all else held constant, as sample size increases, the margin of error:

(a) decreases

(b) increases

(c) stays the same

(04:59) – slide 4, after "But now we have seen that their relationship is actually exponential as well."

2. A given confidence interval is calculated based on a random sample of n observations. If we want to make this interval narrower (1/3 of what it is now), how many observations should we sample?

(a) $\frac{1}{9}\ n$
(b) $\frac{1}{3}\ n$
(c) 3n
(d) 4n
(e) 9n

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Answers:

1. a
2. e

Explanation: Since n is under the square root sign, to make it 1/3 of what it is now, we need to increase the sample size to 3^2=9n.