✅ **Congratulations! You passed!**

Grade received 100%   **To pass** 80% or higher

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1. After identifying a sample statistic, what is the proper order of the next three steps of constructing a confidence interval?

   ○ Choose a confidence level, calculate the interval, and find the margin of error.

   ○ Find the margin of error, choose a confidence level, and calculate the interval

   ⦿ Choose a confidence level, find the margin of error, and calculate the interval

   ○ Find the margin of error, calculate the interval, and choose a confidence level

   1 / 1 point

   > ✓ **Correct**
   > When constructing a confidence interval, first, identify a sample statistic; second, choose a confidence level; third, find the margin of error; and fourth, calculate the interval.

2. A data professional is working for an online retail company. Their manager asks them to estimate the mean time customers spend on the company's website. They construct a confidence interval based on a sample mean of 50 seconds and a margin of error of 4 seconds. What is the interval?

   ⦿ [46, 54]

   ○ [54, 46]

   ○ [50, 54]

   ○ [46, 50]

   1 / 1 point

   > ✓ **Correct**
   > The interval lies between 46 seconds and 54 seconds. The lower limit of the interval is the sample mean minus the margin of error: 50 - 4 = 46. The upper limit of the interval is the sample mean plus the margin of error: 50 + 4 = 54.

3. What happens as a sample size gets larger? Select all that apply.

   ☑ The margin of error decreases.

   1 / 1 point

   > ✓ **Correct**
   > As the sample size gets larger, the confidence interval narrows. This is because as the sample size increases, the margin of error decreases. If every member of the population could be sampled, the margin of error would be zero.

   ☐ The confidence interval widens.

   ☑ The confidence interval narrows.

   > ✓ **Correct**
   > As the sample size gets larger, the confidence interval narrows. This is because as the sample size increases, the margin of error decreases. If every member of the population could be sampled, the margin of error would be zero.

   ☐ The margin of error increases.