Congratulations! You passed!

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1. Which of the following statements accurately describe a point estimate? Select all that apply. **1 / 1 point**

- [x] A point estimate estimates a population parameter.
  - Correct
- [x] A point estimate uses a single value.
  - Correct
- [ ] A point estimate uses a range of values.
- [ ] A point estimate estimates a sample statistic.

2. A data professional working for a theme park is estimating the mean time visitors spend in the park. They construct the following 95% confidence interval based on a sample mean of 3.5 hours: [2.5, 4.5]. What is the margin of error? **1 / 1 point**

- ( ) +/- 2.5 hours
- (•) +/- 1 hour
- ( ) +/- 2 hours
- ( ) +/- 4.5 hours

Correct

3. A data professional working for a media company is estimating the average amount of time a visitor spends on their website. Based on a sample mean of 4 minutes, they construct the following 95% confidence interval: [3.8 , 4.2]. What does 95% refer to? **1 / 1 point**

- ( ) The percentage of all possible sample means that fall within the range of the interval
- ( ) The percentage of data values in the dataset
- (•) The success rate of the estimation process
- ( ) The margin of error

Correct

4. A data professional working for a restaurant chain is constructing a confidence interval to help estimate annual sales. To start, they identify the sample statistic they are working with. According to the four steps that detail how to construct a confidence interval for a proportion, what should they do next? **1 / 1 point**

- (•) Choose a confidence level
- ( ) Plot a histogram
- ( ) Calculate the interval
- ( ) Find the margin of error

Correct

5. A data professional working for a light bulb manufacturer is estimating the mean bulb lifespan based on sample data. They construct a 95% confidence interval using a sample size of 100. In addition, they construct a 95% confidence interval using a sample size of 1,000. What happens as the sample size increases? **1 / 1 point**

- (•) The margin of error decreases.
- ( ) The population parameter gets larger.
- ( ) The confidence interval gets wider.
- ( ) The margin of error increases.

Correct

6. In the context of constructing a confidence interval of a population mean, what does the `loc` argument of the `scipy.stats.norm.interval()` function refer to? **1 / 1 point**

- ○ Interquartile range
- ◉ Sample mean
- ○ Sample standard error
- ○ Confidence level

✓ **Correct**

7. Fill in the blank: Because there is more uncertainty involved in estimating the standard error, data professionals use the _____ when working with a small sample size. **1 / 1 point**

- ◉ t-distribution
- ○ s-distribution
- ○ normal distribution
- ○ z-distribution

✓ **Correct**

8. At what sample size does the t-distribution become practically the same as the normal distribution? **1 / 1 point**

- ☐ 10
- ☑ 30

✓ **Correct**

- ☐ 1
- ☐ 5