Congratulations! You passed!

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

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1. The normal distribution has which of the following features? Select all that apply. **1 / 1 point**

- [x] The shape is a bell curve

Correct
The normal distribution has the following features: the shape is a bell curve, the mean is located at the center of the curve, and the curve is symmetrical on both sides of the center. The normal distribution is the most common probability distribution in statistics because so many different kinds of datasets display a bell-shaped curve.

- [x] The mean is located at the center of the curve

Correct
The normal distribution has the following features: The shape is a bell curve, the mean is located at the center of the curve, and the curve is symmetrical on both sides of the center. The normal distribution is the most common probability distribution in statistics because so many different kinds of datasets display a bell-shaped curve.

- [ ] The total area under the curve equals 4
- [x] The curve is symmetrical on both sides of the center

Correct
The normal distribution has the following features: The shape is a bell curve, the mean is located at the center of the curve, and the curve is symmetrical on both sides of the center. The normal distribution is the most common probability distribution in statistics because so many different kinds of datasets display a bell-shaped curve.

2. What does the empirical rule state? **1 / 1 point**

- ( ) For a dataset with a normal distribution, 100% of values fall within 1 standard deviation of the mean.
- ( ) For a dataset with a normal distribution, 33.3% of values fall within 1 standard deviation of the mean, 33.3% of values fall within 2 standard deviations of the mean, and 33.3% of values fall within 3 standard deviations of the mean.
- (•) For a dataset with a normal distribution, 68% of values fall within 1 standard deviation of the mean, 95% of values fall within 2 standard deviations of the mean, and 99.7% of values fall within 3 standard deviations of the mean.
- ( ) For a dataset with a normal distribution, 50% of values fall within 1 standard deviation of the mean, 30% of values fall within 2 standard deviations of the mean, and 20% of values fall within 3 standard deviations of the mean.

Correct
The empirical rule states that, for a dataset with a normal distribution, 68% of values fall within 1 standard deviation of the mean, 95% of values fall within 2 standard deviations of the mean, and 99.7% of values fall within 3 standard deviations of the mean.

3. A data value is 2 standard deviations above the mean. What is its z-score? **1 / 1 point**

- ( ) -2
- (•) 2
- ( ) 1
- ( ) 0

Correct
Its z-score is 2. A z-score of 2 is 2 standard deviations above the mean. Z-score is a measure of how many standard deviations below or above the population mean a data point is.