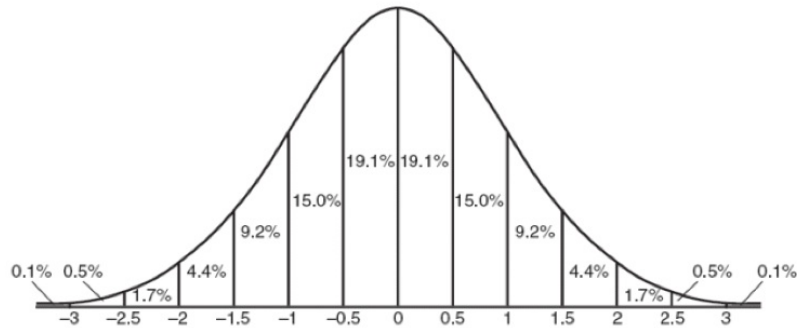


Central Limit Theory and Confidence Intervals

Here are some central limit theorem practice problems. Form groups for four, and work through these problems in your groups.



1. What is this distribution called? In this distribution, how many numbers lie between *plus* and *minus* one standard deviation of the mean?
2. What is the mean for this distribution? The standard deviation? [Hint: Add up the area (in percentages) beneath the curve to help.]
3. A researcher sampled the following responses in a survey:
{-1.27, 1.30, -1.61, 0.22, -0.42, -0.24, -0.79, 0.30, 0.68, 0.51, -1.24, 1.57, 0.71}
 - a) What is the mean and standard deviation of this sample? What is the sample size?
 - b) Calculate the standard error from this sample for the population mean.
 - c) Calculate the confidence interval for 95% and 99% levels of confidence.
 - d) Extra Credit: What are the 25th and 75th quantiles of this sample?