Learning Objectives:

**Sampling Distributions for Means:**

E1. Describe the sampling distribution of a statistic and define the standard error of a statistic.

E2. Given a study, describe the sampling distribution of x-bar as specifically as possible. This involves stating whether this distribution is at least approximately normal.

E3. Given a population standard deviation ($\sigma$), calculate the standard deviation of the sample mean $\bar{x}$, using the formula $\sigma/\sqrt{n}$.

E4. Given a population mean ($\mu$), standard deviation ($\sigma$), sample size (n) and sample mean, calculate the standardized value (z-score) for a sample mean.

Students will also need to recall:

1. Given a study, describe the parameter and/or statistic (from the data collection and surveys section).
2. Given a z-score, use a normal table to find the corresponding probability (from the normal distribution section).
3. Given a mean and standard deviation, find a specified percentile of the normal distribution (from the normal distribution).

Relevant Readings:

Chapter 9 pgs 331-348, SD Module 3, 368-370, 373-382

Suggested Practice Problems: