

## Section 7.3: Sampling Distributions for Means

### 7.3 Sample Means - Key Vocabulary:

- sample mean
- central limit theorem



- 1) What are sample means? How do they differ from sample proportions? Give examples.
- 2) Define the sampling distribution of a sample mean.
- 3) The mean and standard deviation of a population are parameters.
  - What symbols are used to represent these parameters?
- 4) The mean and standard deviation of a sample are statistics.
  - What symbols are used to represent these statistics?
- 5) What is the mean of the sampling distribution of  $\bar{x}$ , if  $\bar{x}$  is the mean of an SRS of size  $n$  drawn from a large population with mean  $\mu$  and standard deviation  $\sigma$ ? No conditions for this formula.
- 6) What is the standard deviation of the sampling distribution of  $\bar{x}$ , if  $\bar{x}$  is the mean of an SRS of size  $n$  drawn from a large population with mean  $\mu$  and standard deviation  $\sigma$ ? Describe the condition for this formula.
- 7) What is the 10% condition? When do you use it?

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- 8) The shape of the distribution of the sample mean depends on ...
- 9) Because averages (from a sampling distribution) are less variable than individual outcomes(selecting an individual from the population),
- a. What is true about the standard deviation of the sampling distribution of  $\bar{x}$  ?
  - b. How does the probability from a sampling distribution differ the probability of selecting an individual from the population?
- 10) What is the Central Limit Theorem?
- 11) What are the 2 conditions to check for a normal distribution for sample means?