AP STATISTICS GUIDED NOTES CH. 7
7.3 Sampling Distribution of a Sample Mean

Based on the penny activity, what do we know about the shape, center, and spread of the sampling distribution of a sample mean?

Read 444–445

What are the mean and standard deviation of the sampling distribution of a sample mean? Are these formulas on the formula sheet? Are there any conditions for using these formulas?

Read 445–448

What is the shape of the sampling distribution of a sample mean when the sample is taken from a Normally distributed population? Does the sample size matter?

Alternate Example: At the P. Nutty Peanut Company, dry-roasted, shelled peanuts are placed in jars by a machine. The distribution of weights in the jars is approximately Normal, with a mean of 16.1 ounces and a standard deviation of 0.15 ounces.
(a) Without doing any calculations, explain which outcome is more likely: randomly selecting a single jar and finding that the contents weigh less than 16 ounces or randomly selecting 10 jars and finding that the average contents weigh less than 16 ounces.

(b) Find the probability of each event described above.

Read 449–452

What is the shape of the sampling distribution of a sample mean when the sample is NOT taken from a Normally distributed population? Does the sample size matter? Does this concept have a name?

Alternate Example: Suppose that the number of texts sent during a typical day by a randomly selected high school student follows a right-skewed distribution with a mean of 15 and a standard deviation of

35. Assuming that students at your school are typical texters, how likely is it that a random sample of 50 students will have sent more than a total of 1000 texts in the last 24 hours?

Don’t need to do the four-step process!

HW page 441 (41, 43–46), page 454 (49–63 odd, 65–68)