Introduction to the Central Limit Theorem

IntroCLT.tns

Name _____

Class _____

Problem 1 – Rolling Two Number Cubes

List the 10 sample means found by your simulation.

For the 50 sample means, record the mean and standard deviation.

$\bar{x} =$ _____ $s =$ _____

Sketch the histogram of the 50 sample means.

Problem 2 – Rolling Four Number Cubes

List the 10 sample means found by your simulation.

For the 50 sample means, record the mean and standard deviation.

$\bar{x} =$ _____ $s =$ _____

Sketch the histogram of the 50 sample means.

Problem 3 – Rolling Seven Number Cubes

List the 10 sample means found by your simulation.

For the 50 sample means, record the mean and standard deviation.

$\bar{x} =$ _____ $s =$ _____

Sketch the histogram of the 50 sample means.

Problem 4 – Bringing It All Together

What happened to the histograms as the sample size, *n*, increased?

What happened to the standard deviations as *n* increased?

What is true about the means of the sample means?

Find $\frac{\sigma}{\sqrt{n}}$ for *n* = 2, 4, and 7, where $\sigma \approx 1.7$.