CLT Simulation Notes

Start by realizing 500 trials from a uniform [0,1] distribution.
(Mean=.5, Standard Deviation=.sqrt(1/12)=.289)

Now square each value to get the simulation of a new distribution.
(Mean=.333, Standard Deviation=.298)

Compare with a normal distribution N(.333,.298).

Probability Histograms – area of blue rectangle is the fraction of the results falling within the range at the base.

Now do the above four times and compare the averages of each of 500 sets of four values with N(.333,.298/2).

Then 25 times and compare the averages of each of 500 sets of 25 values with N(.333,.298/5).

Finally 100 times and compare the averages of each of 500 sets of 100 values with N(.333,.298/10).