The Central Limit Theorem

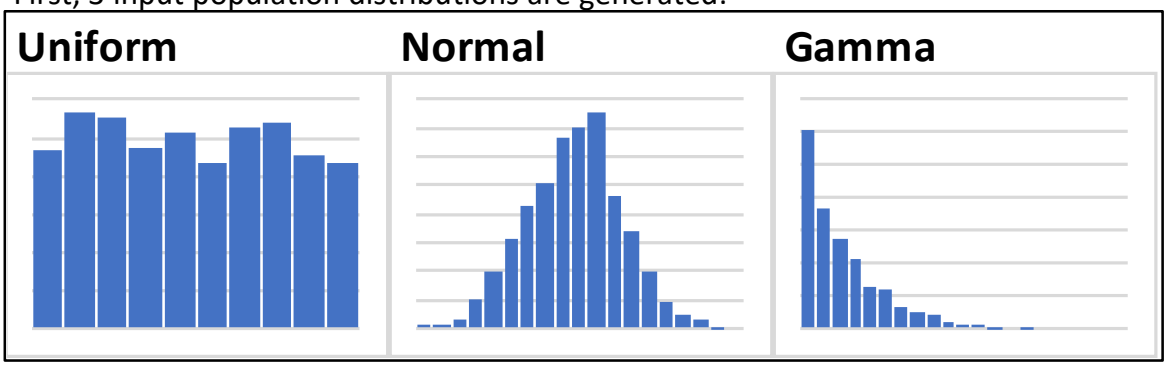
Simplified:
"Take chunks of ~30 or more from any set, and their averages will usually have a normal distribution"

Context

To present the concept to ~50 peers, the calculation sheet was prepared in 30 minutes

Method

First, 3 input population distributions are generated:



Then, 2 parameters are set to sample them:

Chunk size
5

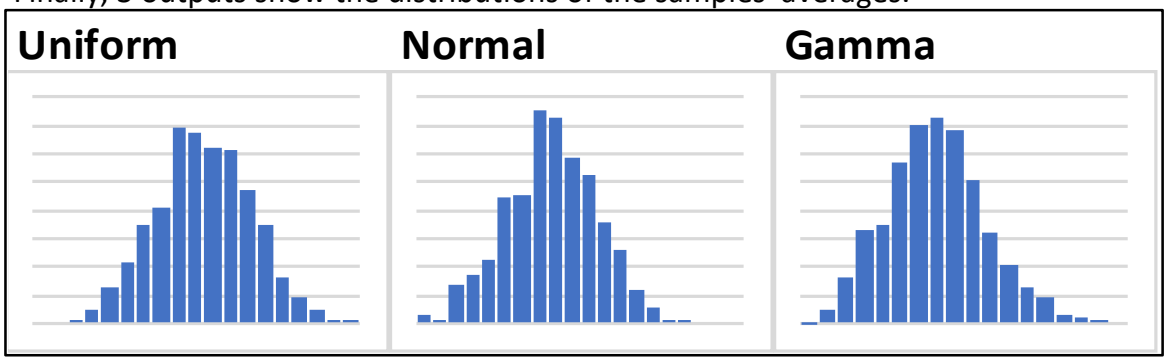
Chunks
500

They are combined via 1 formula (hand-derived in a single cell):

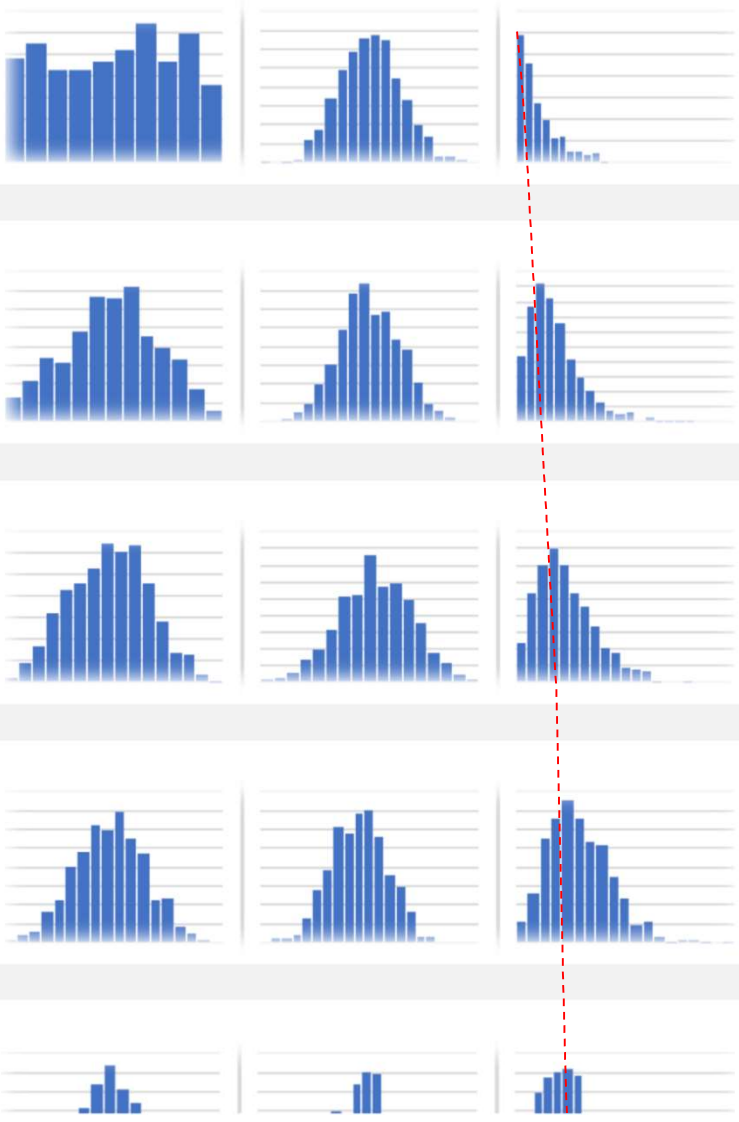
```
=LET(
    range, A3#,
    sample_size, $E$4,
    experiment_repeats, $E$5,

    sample_indices, RANDARRAY(sample_size, experiment_repeats, 1,
                    ROWS(range),TRUE),
    sampled_outputs, INDEX(range, sample_indices),

    bycol_sum, TRANSPOSE(MMULT(TRANSPOSE(sampled_outputs),
          SEQUENCE(ROWS(sampled_outputs),, 1, 0))),
     bycol_average, bycol_sum / sample_size,

          TRANSPOSE(bycol_average)
          )
```

Note: The third paragraph redefines BYCOL(), because an older version of Excel was used

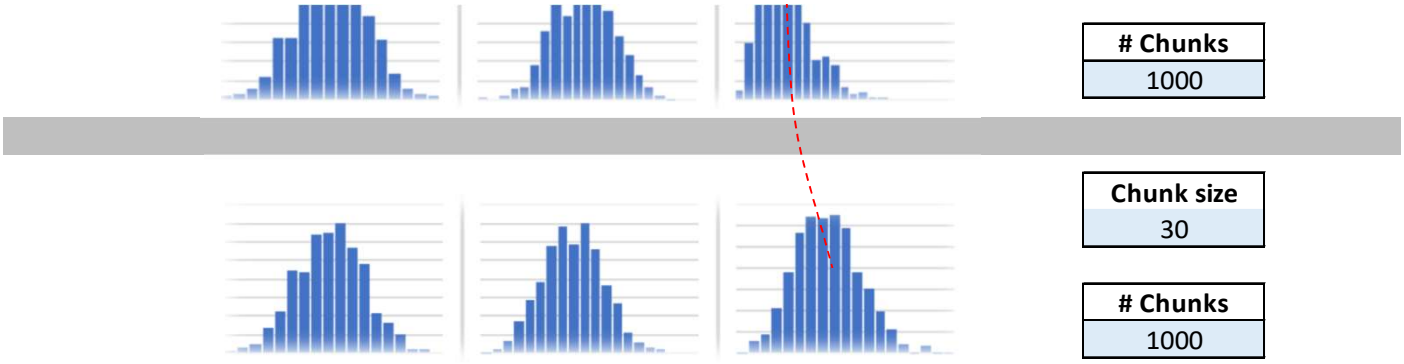
Finally, 3 outputs show the distributions of the samples' averages.



(Tried during the presentation: 1000 Chunks, with Chunk sizes 1, 2, 3, 4, 5, 30 -- illustrated below)



Chunk size	# Chunks
1	1000
2	1000
3	1000
4	1000
5	



Chunks
1000

Chunk size
30

Chunks
1000