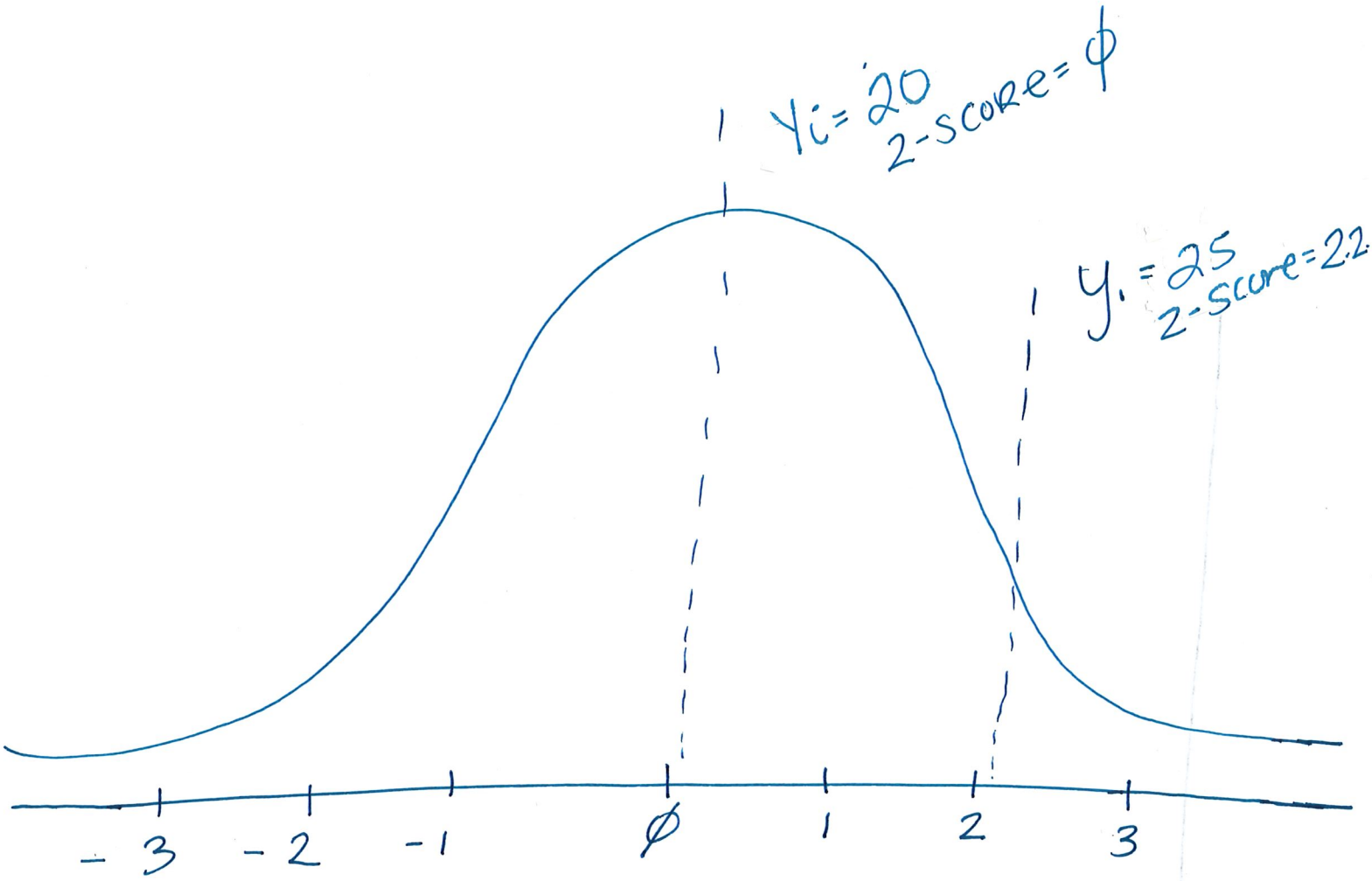
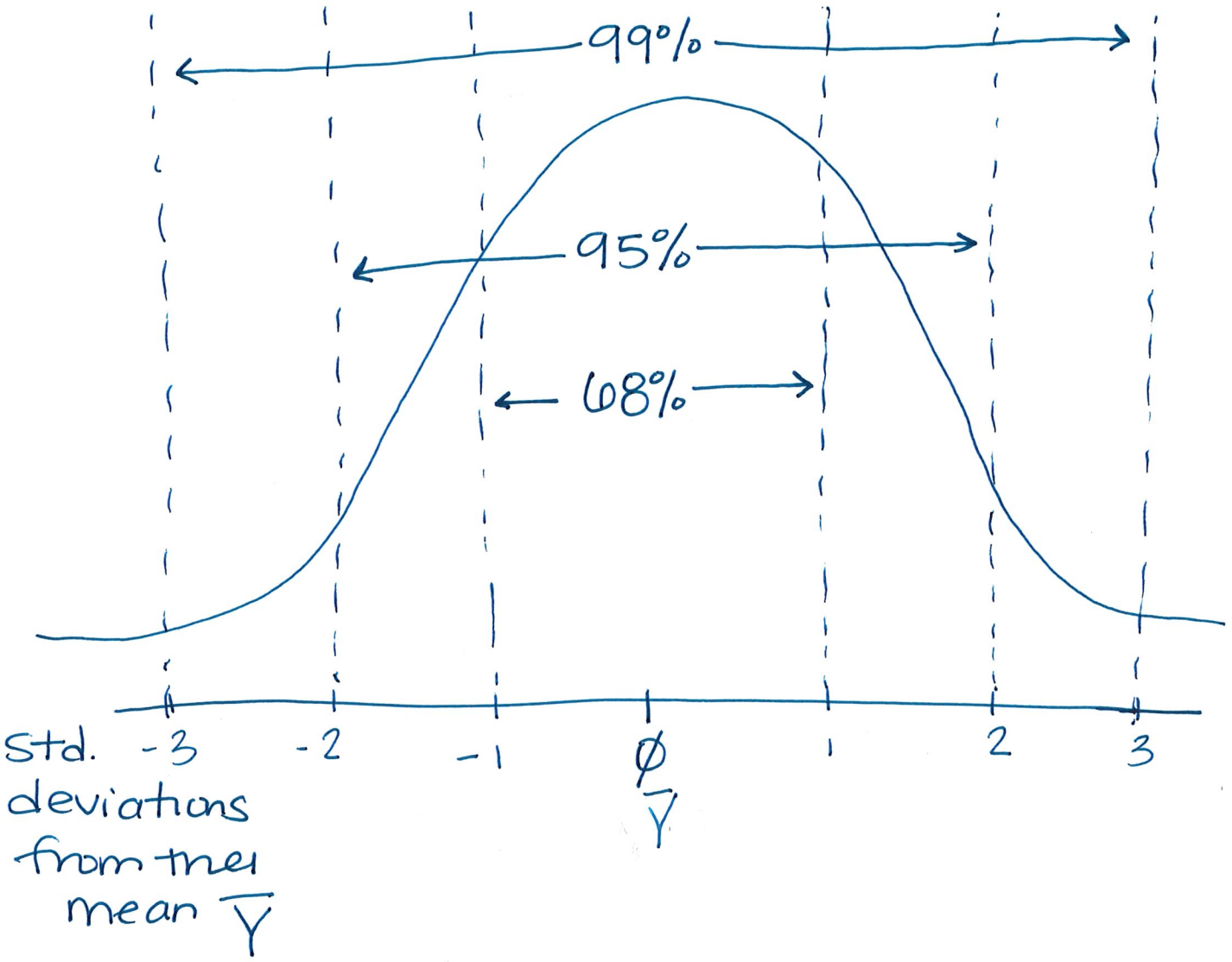
Standard Normal Distribution



2-score = ϕ = obs has the same value as the mean

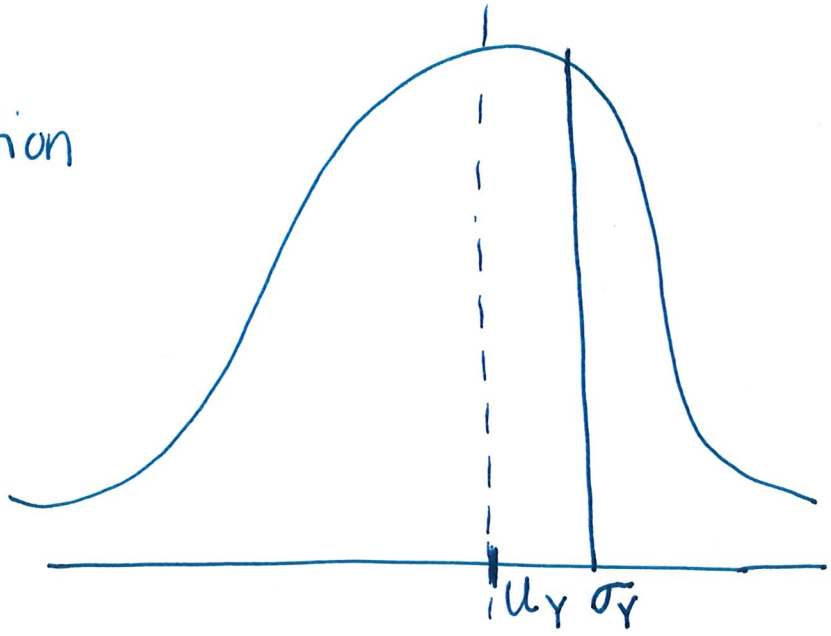
2-score = 2.2 = obs has value 2.2 sta. dv greater than mean

Empirical Rule (aka "68-95-99" Rule)

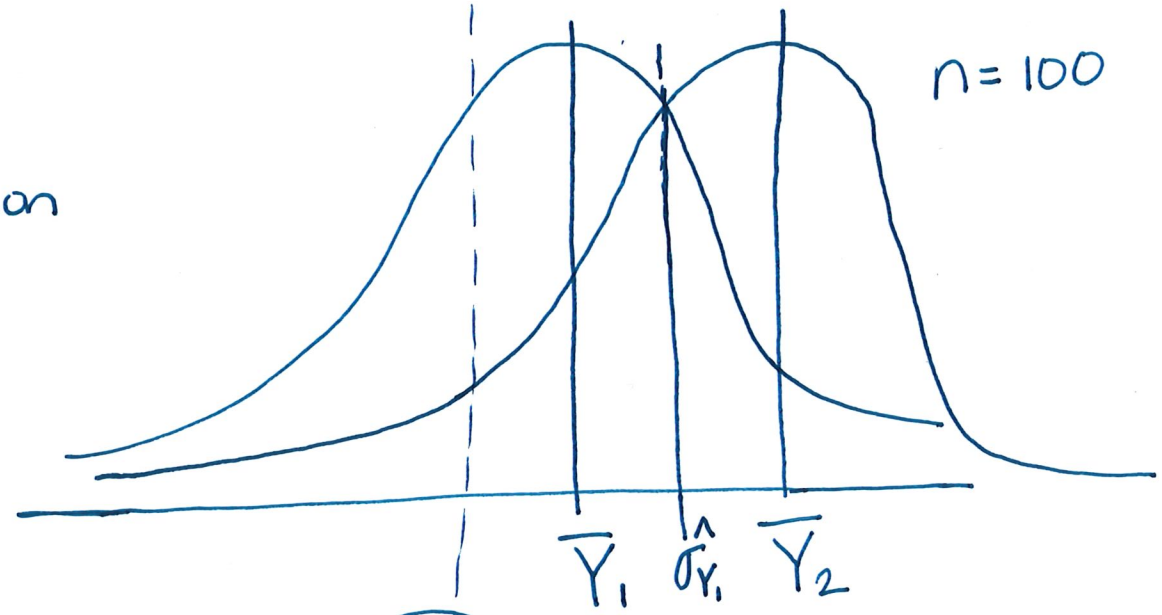


The three pictures (mean)

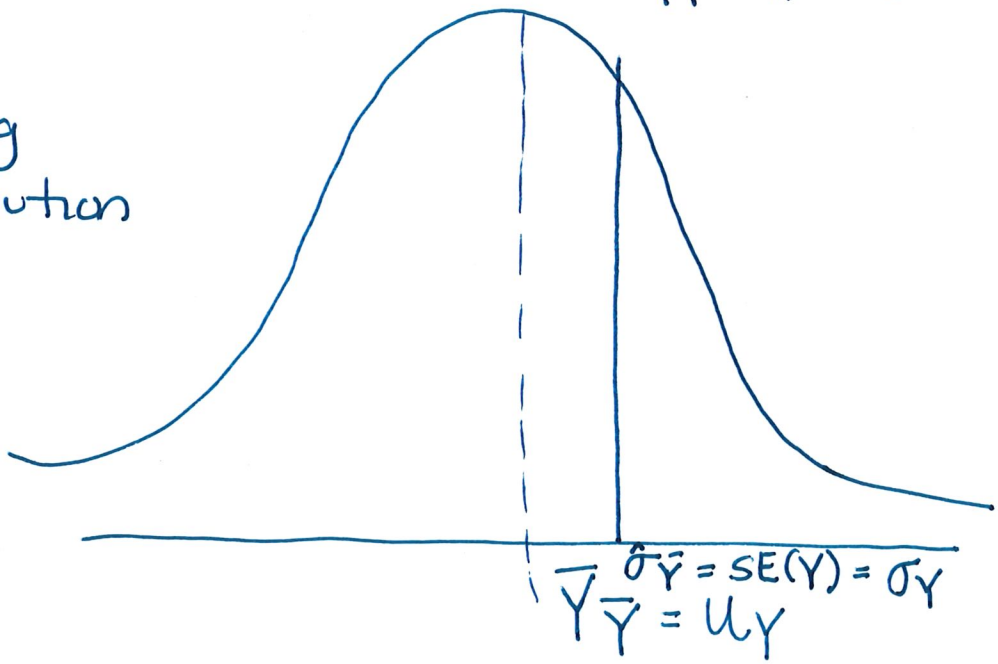
Population distribution



Sample distribution

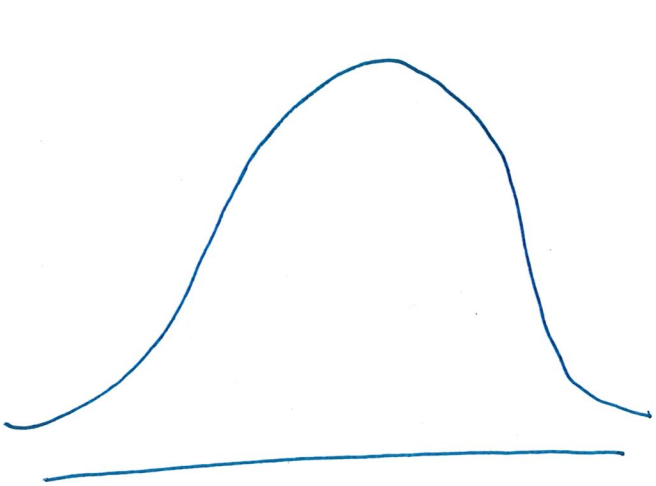


Sampling distribution

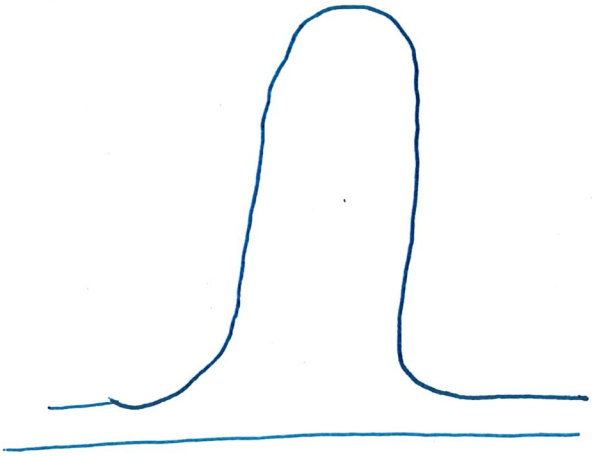


Properties of Sample Standard Error

Sampling distributions



n = 10



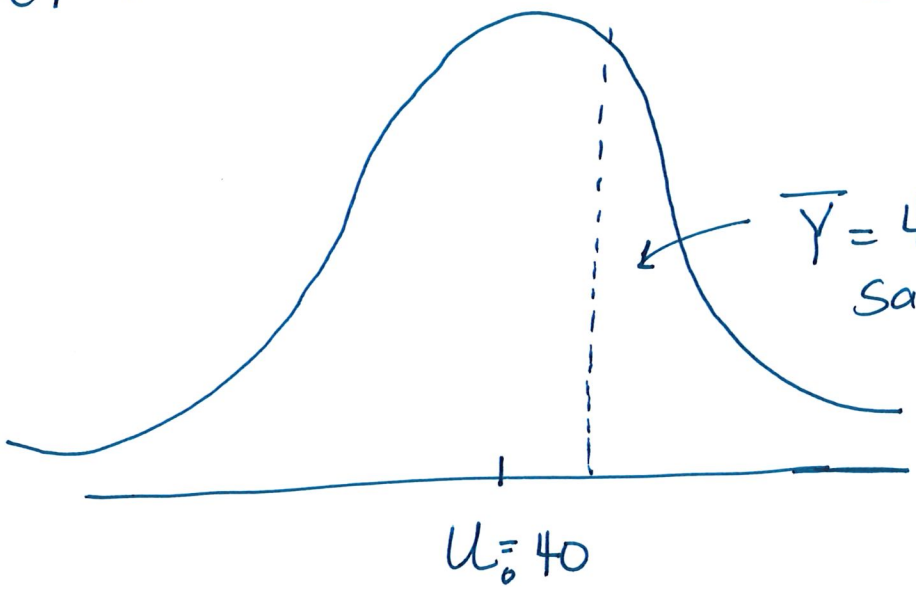
n = 1000

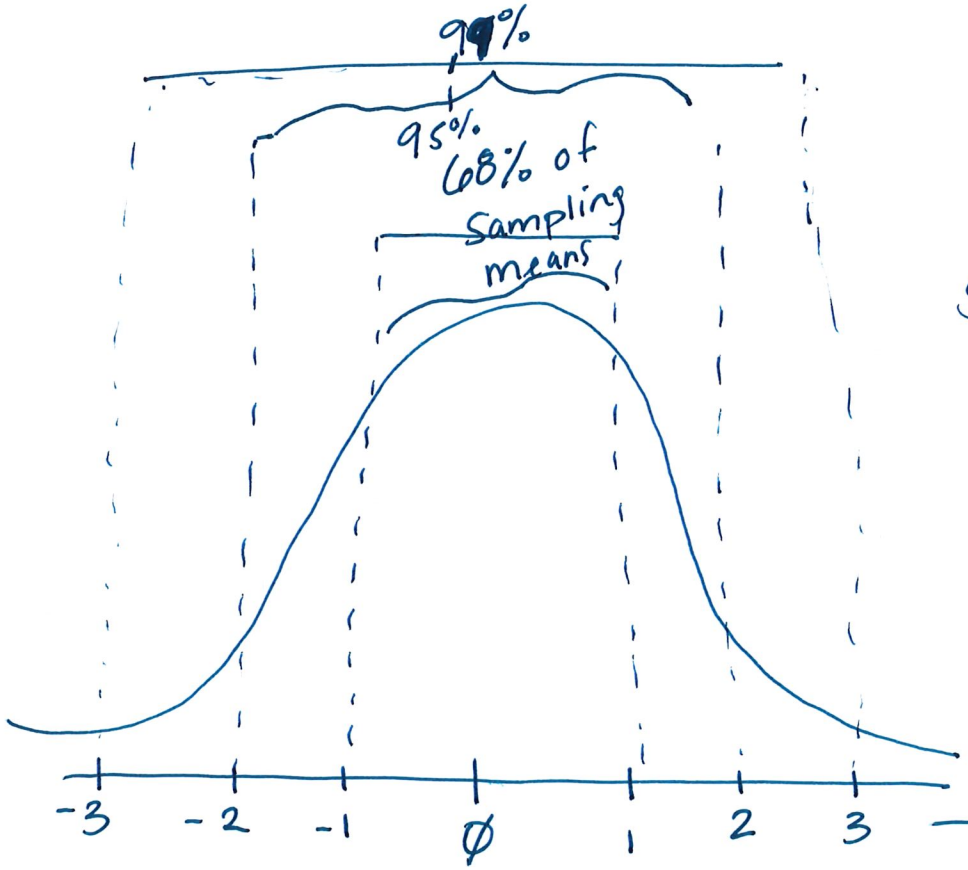
Step #2: Hypotheses (population mean)

$H_0: \mu = 40$

$H_a: \mu \neq 40$

Sampling Dist assuming Ho is true





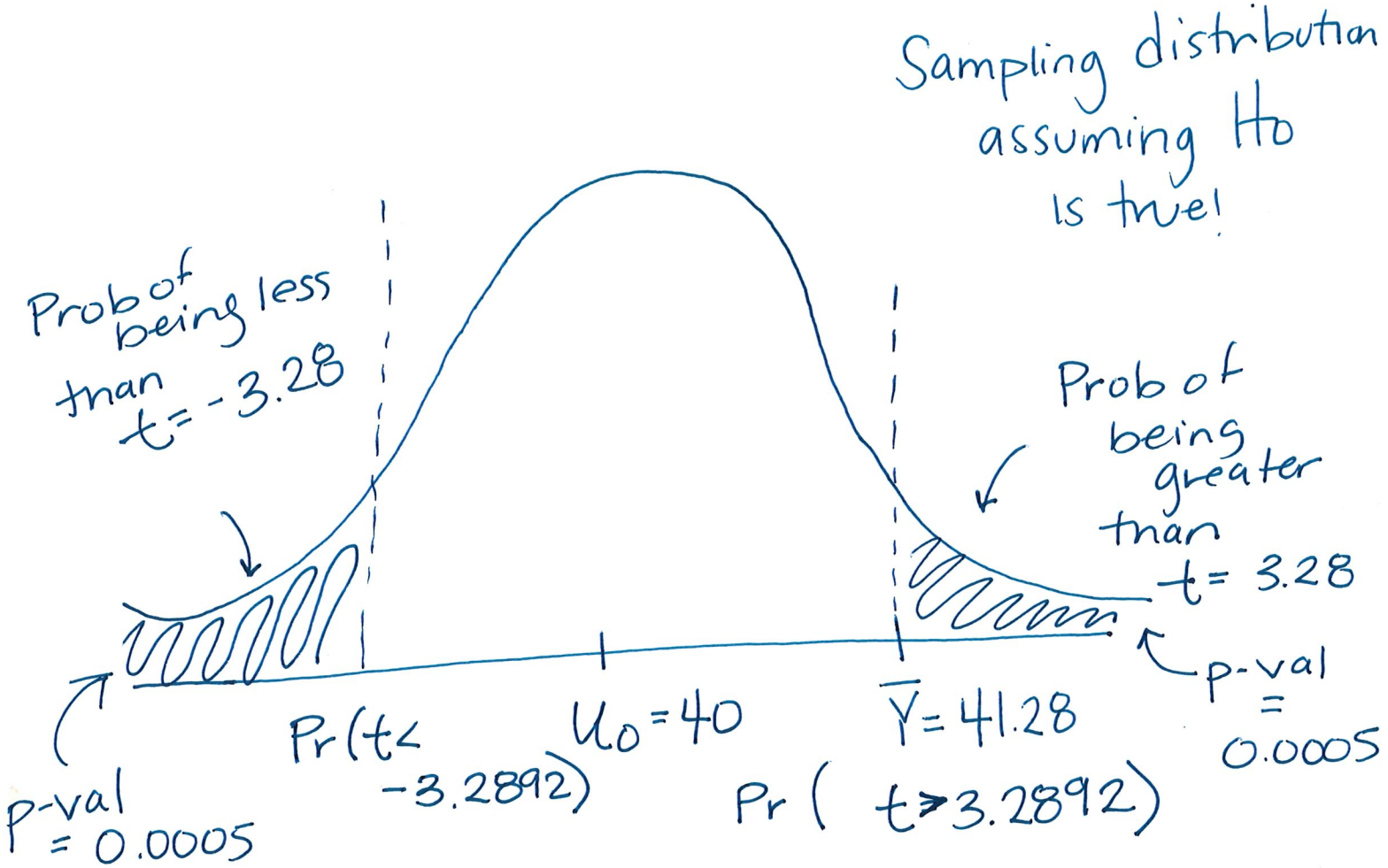
↓ Converted to

Standard Normal Distribution

→ Standard errors away from the mean

Step #4: P-Value

(population mean)



p-value = 0.001

↓

two-sided

0.0005 + 0.0005

pr(obs < -t) + pr(obs > t)

Using $\hat{B}_1$ to test hypothesis about B_1 (population Regression Coefficient)

$H_0: B_1 = \phi$

$H_a: B_1 \neq \phi$