

05/01/2019

Today 11.6

Friday Quiz on Hypothesis testing.

Monday: Review

Monday 15th May Final (cumulative) 11:01:30

$$CI \quad \bar{x} \pm z^* \frac{\sigma}{\sqrt{n}}$$

margin Error

z^* z-score based on confidence level.

σ = POP std dev
→ cannot change

n = sample size
→ change sample size to affect margin of error.

① $H_0: \mu = 50$

$H_a: \mu \neq 50$

$n = 130$

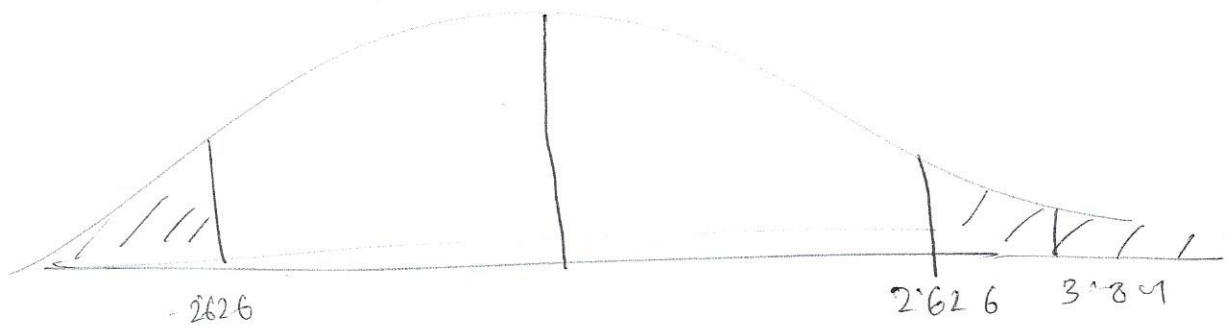
$\alpha = .01$

$\sigma = 90$

$\bar{x} = 80$

$\mu = 50$

$$t = \frac{\bar{x} - \mu}{\sigma/\sqrt{n}} = \frac{80 - 50}{90/\sqrt{130}} = 3.801$$



Reject H_0

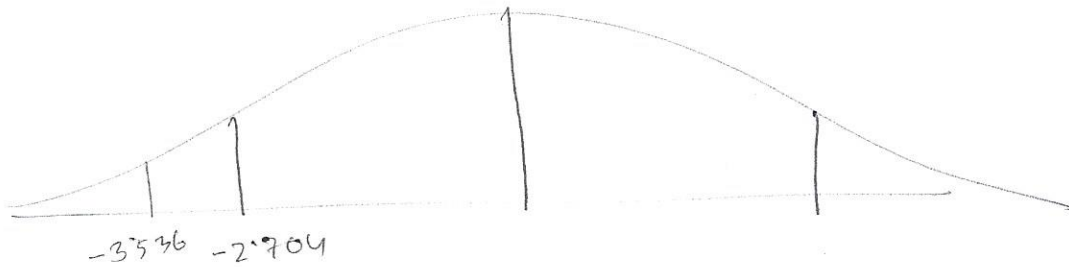
H_0 is correct.

2. $n = 50$
 $\bar{x} = 1.5$
 $\mu = 3$
 $s = 3$

$H_0: \mu = 3$

$H_a: \mu < 3$

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{1.5 - 3}{3/\sqrt{50}} = -3.536$$



Reject H_0 . α, β

$$3. H_0: \mu = 30$$

$$H_a: \mu > 30$$

$$n = 450$$

$$\bar{x} = 50$$

$$s = 25$$

$$\alpha = 0.05$$

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{50 - 30}{25/\sqrt{450}} = 26.$$

Reject H_0 . α .

