Statistics

Lecture 24

Feb 19-8:47 AM

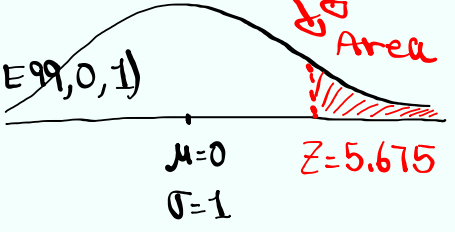
SG 23

CTS $Z = 5.675$ RTT

Find Corresponding P-Value.

P-Value = normalcdf(5.675, E99, 0, 1)

$= \boxed{6.954 \times 10^{-9}}$



If it was TTT

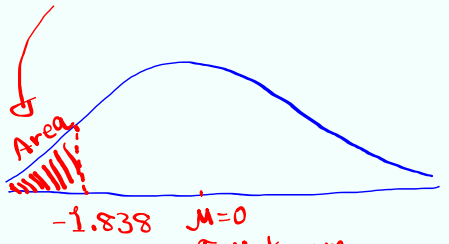
P-Value = 2 • normalcdf(5.675, E99, 0, 1)

[X] 2 [Enter] $\boxed{1.391 \times 10^{-8}}$

Nov 26-10:37 AM

CTS $t = -1.838$ LTT $df = 15$.

Find corresponding P-Value.



P-Value = tcdf(-E99, -1.838, 15)

= .043

If it was TTT

P-Value = 2·tcdf(-E99, -1.838, 15)

= .086

X 2 Enter

Nov 26-10:43 AM

College claims that 65% of all students are in favor of online classes. $P = .65$ H_0

$x = n\hat{p} = 225(.62) = 139.5$ $x = 140$

if decimal → Round up

$n = 225$

I randomly selected 225 students and 62% of them were in favor of online classes. $\hat{P} = .62$

Use $\alpha = .01$ to test the claim.

$H_0: P = .65$ claim

$H_1: P \neq .65$ TTT

CTS $Z = -.874$

P-Value $P = .382$ ✓

1-Prop Z Test

$P_0: .65$ H_0

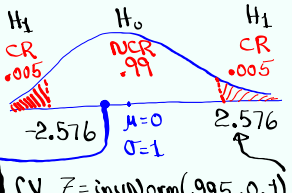
$x = 140$

$n = 225$

Prop $\neq P_0$ H_1

Calculate

CV Z TTT $\alpha = .01$



CV Z = invNorm(.995, 0, 1)

CTS is in NCR

P-Value > α

H_0 valid H_1 invalid

Valid claim

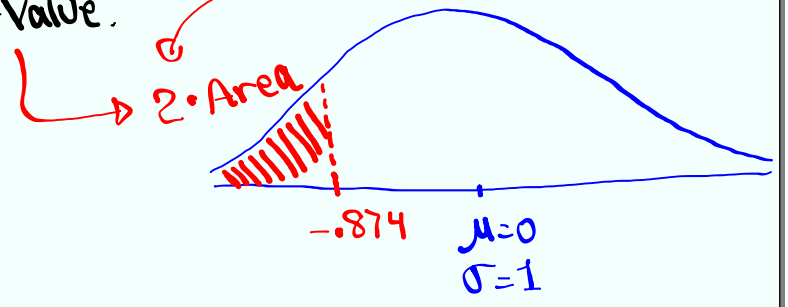
FTR the claim

Nov 26-10:48 AM

Doing Reverse

CTS $Z = -.874$ TTT

Find p-Value.



P-Value = 2 • normalcdf(−E99, −.874, 0, 1)

= .382

Nov 26-11:05 AM

Testing Population Mean μ:

Given: $H_0: \mu = 84$, claim is H_0, $\alpha = .1$

$n = 32$, $\bar{x} = 90$, $\sigma = 10$

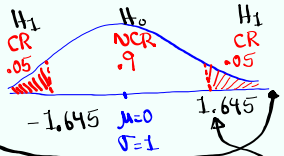
Test the claim.

$H_0: \mu = 84$ claim

$H_1: \mu \neq 84$ TTT

σ is Known

CV Z TTT $\alpha = .1$



CV $z = \text{invNorm}(.95, 0, 1)$

CTS $Z = 3.394$

P-Value $P = 6.9 \times 10^{-4}$

Z-Test

Inpt: Stats

$\mu_0 = 84$ H_0

$\sigma = 10$

$\bar{x} = 90$

$n = 32$

μ $\neq \mu_0$ H_1

Calculate

CTS is in CR

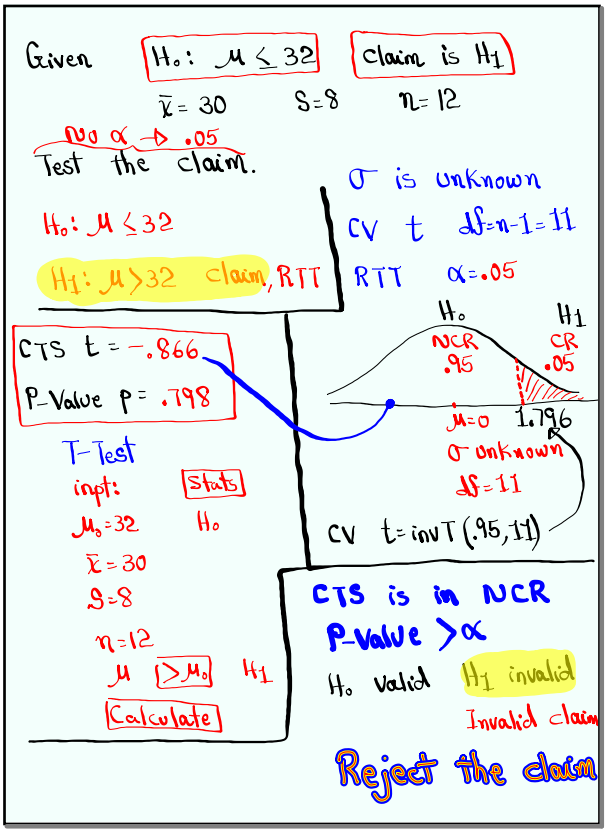
P-value $\leq \alpha$

H_0 invalid H_1 Valid

Invalid claim

Reject the claim

Nov 26-11:08 AM



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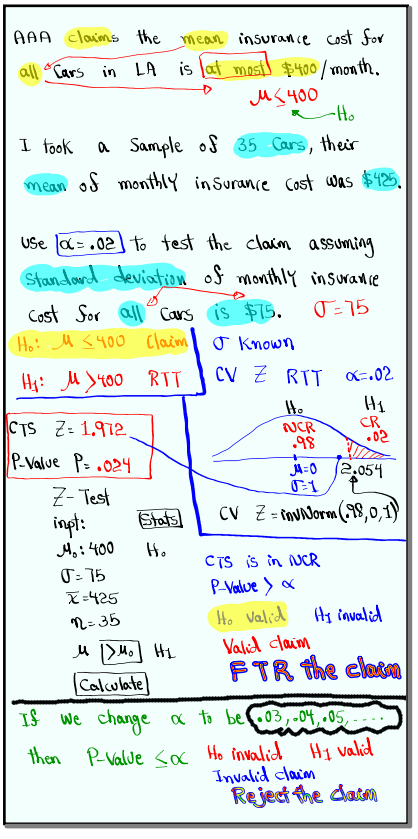

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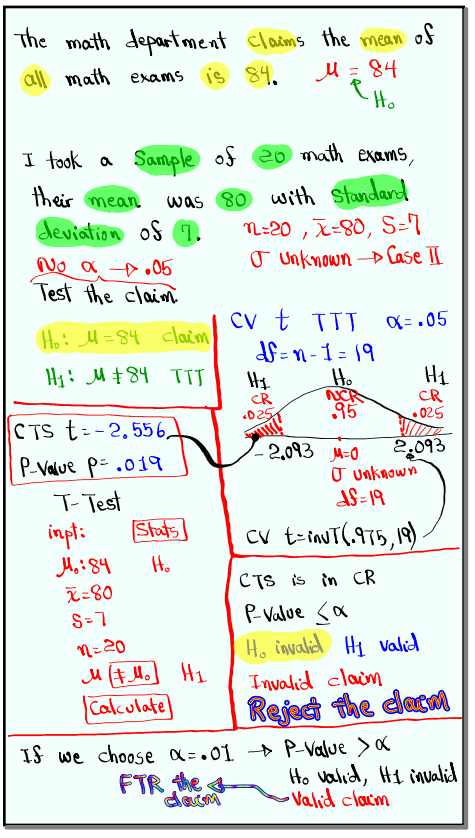
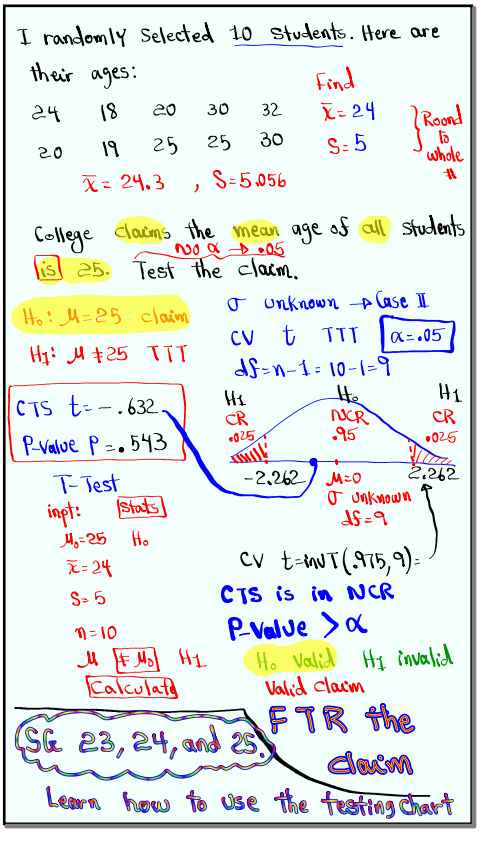


Nov 26-11:56 AM



Nov 26-12:14 PM