Statistics

Spring 2023

Lecture 57

Feb 19-8:47 AM

Class QZ 14

Use the chart below with ANOVA to find

L1		L2		L3	
50	52	55	59	84	86
54	70	63	77	90	100
75	68	70	65	100	95
65		68		98	

CTS F = 31.865

P-Value P = 1.2×10^{-6} ✓

STAT TESTS

ANOVA(L1, L2, L3) Enter

Clear all lists. 2nd + 4: clearAll lists Enter

Reset all lists. STAT Edit

5: SetupEditor Enter

$K = 3$

$n = 7 + 7 + 7 = 21$ ⇒ NDF $= K - 1 = 2$, DdF $= n - K = 18$

$H_0: \mu_1 = \mu_2 = \mu_3$

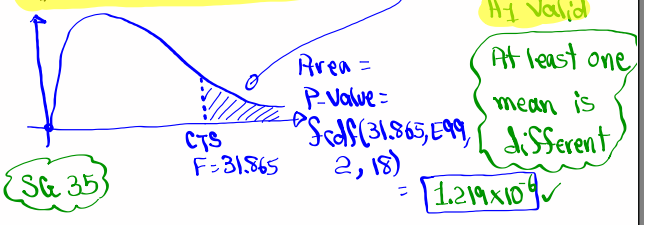
H_1: At least one mean is different, RTT

P-value $\leq \alpha$

1.2×10^{-6} .05

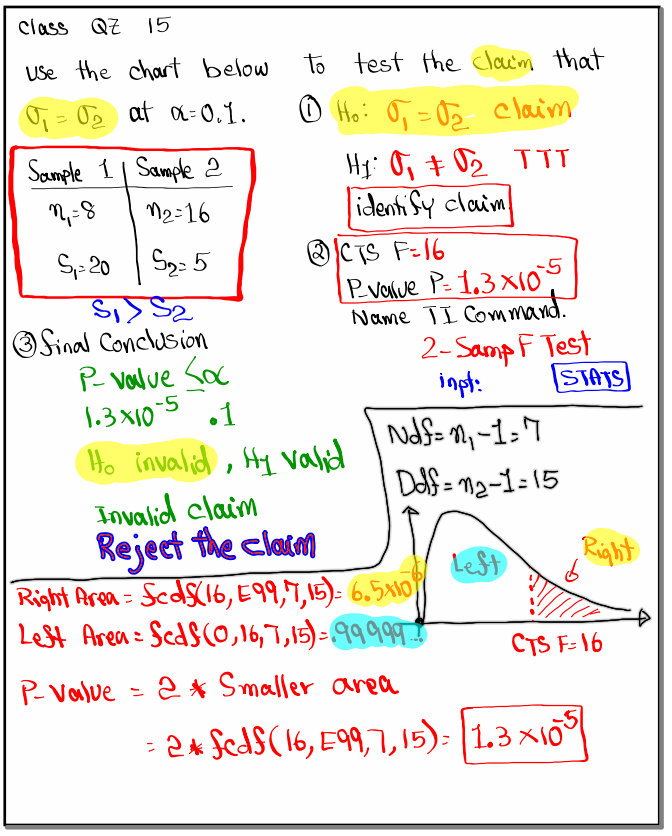
H_0 invalid

H_1 valid



At least one mean is different

May 24-8:03 AM


Class Qz 15
Use the chart below to test the claim that $\sigma_1 = \sigma_2$ at $\alpha = 0.1$.
① H_0: $\sigma_1 = \sigma_2$ claim
H_1: $\sigma_1 \neq \sigma_2$ TTT
identify claim
Sample 1 | Sample 2
$n_1 = 8$ | $n_2 = 16$
$S_1 = 20$ | $S_2 = 5$
$S_1 > S_2$
② CTS F = 16
P-value P = 1.3×10^{-5}
Name TI Command.
2-SampF Test
Input: STATS
③ Final Conclusion
P-value $\leq \alpha$
1.3×10^{-5} .1
H_0 invalid, H_1 valid
Invalid claim
Reject the claim
Ndf = $n_1 - 1 = 7$
Ddf = $n_2 - 1 = 15$
Left
Right
Right Area = fcdf(16, E99, 7, 15) = 6.5×10^{-6}
Left Area = fcdf(0, 16, 7, 15) = .999993...
CTS F = 16
P-value = 2 * Smaller area
= 2 * fcdf(16, E99, 7, 15) = 1.3×10^{-5}

May 25-6:57 AM