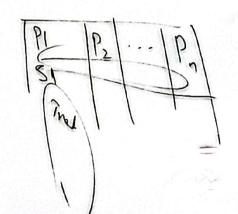
77740	
F distribution (is a continous distribution)	
7.57.77	
1. The F-dist is continous and skewed to the r	ight
2. The F-dist has two degree of freedom	nyn
i - df of for the numerator & df (8	,14)
i - df of for the numerator } df(8)	danom
3. The units (the value) of the F-dist one non-	negative
ANOVA (Analysis of vonionce)	
ANOVA is a procedure that a used to tes	
the null hypothesis that the mean of three or more	
population one all equal	i i i i i i i i i i i i i i i i i i i
1 0 1 14	
Assumptions of One-way ANOVA	
1 The population from which the samples on draws	
are approximately normal distributed	
2. The population from which the simple one drown here the same vortonce for standard der	(4)
	(when
3. The sample drawn from different populations as	
random and resuperacy	
Test Stabitics	
F = Variance between samples or	
Vordonce within semples	

 $H_0: M_1 = M_2 = M_3 = \cdots = M_n$

H : at least two population memore different

Assume that $\vec{\sigma}_1 = \vec{\sigma}_2 = \vec{\sigma}_n$

Vorin between Semple Vorin withing sample



Sum of segme between sample
$$SSB = \left(\frac{T_1}{n_1} + \frac{T_2}{n_2} + \cdots\right) - \left(\frac{\sum x}{n}\right)^2$$

Som if square within semply
$$SSW = \sum X^2 - \left(\frac{1}{n} + \frac{1}{n} + \dots\right)$$

W22+822=122 mys knows Stol

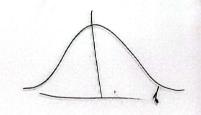
when x: data when

K: # of somply

Mi: Size of sampli

Ti = the sum of value is sempli

of in the us of value in all sent



$$SSB = \left(\frac{T_1}{n} + \frac{T_2}{n_2} + \cdots\right) - \left(\sum x\right)^2$$

Sum of segme between sample

SSB=
$$\left(\frac{T_1^2}{n_1} + \frac{T_2^2}{n_2} + \cdots\right) - \left(\frac{\sum x}{x}\right)^2$$
 Voint lobrer when $x : dela ulu$

SSB= $\left(\frac{T_1^2}{n_1} + \frac{T_2^2}{n_2} + \cdots\right) - \left(\frac{\sum x}{x}\right)^2$ Voint lobrer $x : dela ulu$

MSB= SSB

N: : Size of sample is

Some of squeez within semply
$$SSW = \sum X^2 - \left(\frac{1}{n_1} + \frac{1}{n_2} + \dots\right)$$

10th sund spring 55T= 55B + 55W

Exemply Find F. volue

The second secon		
Symple 1	Sough 2	semple 3
48	55	84
73	85	68
51	70	95
65	69	74
87		67
n, = 5	M2 = 5	n3=5
T1=324	T ₂ = 369	T3=388
[x= [1=1]2 + 1]3=	1081	
= x= (48) += + (67)= 80,709	
K = 3, N=15		

Since Sum & Segme to busen scripts

$$SSB = \left(\frac{T_{1}}{n_{1}} + \frac{T_{1}}{n_{2}} + \cdots\right) - \left(\frac{Z}{X}\right)^{2} \quad \text{Verice lower Sample} \quad \text{When } X: \text{ deba when } X: \text{ deba when$$

ANONA Table Source of Degree of Sum , f Verreto Volunty Test stylm, Between SSB MSB E = WEB Willia SSM MSW N-1 Total SST

6	٥	Simple 1	Souple 2	semple 3	ANG	VA Table			ne Gr
		48	55	84	Source of Voriction	Degree of	Sum . I	Mens sque-	Volumby Test sturms
		73	85	68	Between	me-1	SSB	MSB	
of Sempli		51	70	95				. ,20	F= MOB MSN
in all sent.		65	69	74	wilkin	n-{-	SSW	Msw	Msn
		87	95	67	Total	h-1	SST		
		11:5	n=5	n3=5					
		$T_1 = 324$	T ₂ = 369	T3=388					
7		5x= 1,112 + 13=	1081						
10		Z x = (48) + + 167)= 80,709						
. 9	- 9 '	K = 3, N=15							

Sum of Segm between script $SSB = \frac{T_1^2 + T_2^2}{N} + \cdots - \frac{(2 \times)^2}{N} \quad \text{Verical lower } \text{ where } \times \text{ data when } \text{ when } \times \text{ data when } \text{ data whe$ Show if square within semple $SSN = \sum_{N=1}^{\infty} \frac{1}{N} + \frac{1}{N}$ = 216.0667 Post Rom & Spring W22+822=122 125.7333 = 1.01

H	Simple 1 = : M, = Mz = M3	South 5	1 0 = 0.01 Semple 3	AINO	VA Table				
	men oved, then 73	55	84	Source of	Degree of	Sum . b	<u>(E</u> 905)		
	73	85	68	Vertical	freedom	Efren	Mean Splan	Volumb Test stylming	0
	51	70	95	Between	K-1	22B	MSB		
4 .	65	69	74	wilkin	-k	C.		F= MSB MSW	
1 +1	87	90	67	Total	N-I	SSM	M2W	Msw	
d+ +1.0	M, = 5	n = 5	n3=5	'তাঝ	"	SST		1	
	$T_1 = 324$	T ₂ = 369	$T_3 = 388$	df (k=1, n-	-k)				
	[x= [1+]2+]3=	1081	됐어? [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	ol, df(2, 12)					
	= (48)+···-+(67)	= 80,709 _	L. Y	= 6.93					
- 8	K = 3, N=15		0						

4 . 4	Simple 1	Souph I	1 d = 0.01 Semples	AINDY	IA Table		- 4 _E	
Ho:M.=Ne=	= M3 t + ws t + ws t + d : Ment 7 3	55	84		Degree of	Sum it	Mean	Notice of
Win	F1	85 70	68 95	Between	K-1	SSB	MSB	Test of white
	65	69	74	within	- K	SSW		F = MSB
+ H=	87	90	67	Total	M-1	SST		
	n, = 5	N = 5	n3= 5					
	T, = 324	12 = 369	T3=388	df (K), v				
	[x= [1=]2 +]=	3= 1081		o.ol, df(2, 12	4)			
· = 0	$\sum_{x=3}^{2} (48)^{2} + \dots - + 1$	-(67) = 80,709	C.V	y = 6.93				