

# TWO-WAY ANOVA

Completely  
Randomized  
Design  
(C.R.D.)  
(one-way)

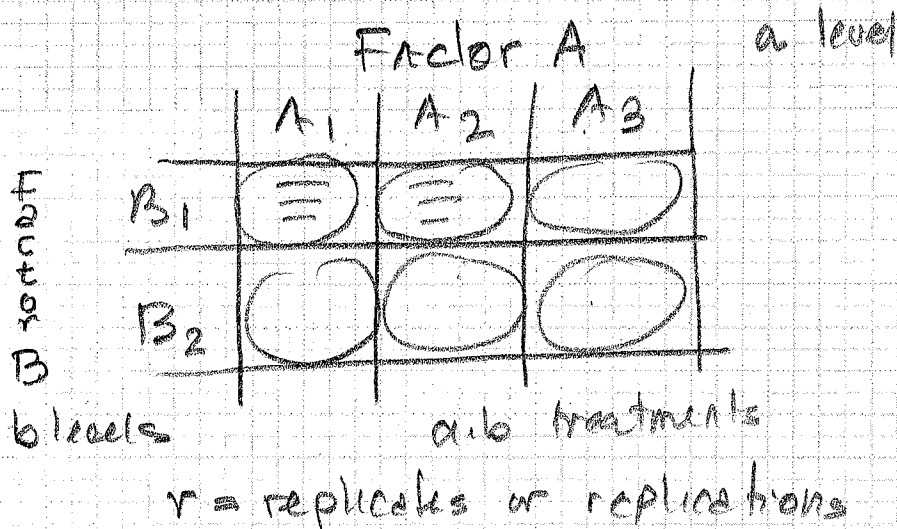
	FACTOR A		
	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>
7	1	4	
4	2	9	
5	4	7	
3		6	5

Randomized  
Block Design  
(RBD)

	Factor A		
blocks	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>
B <sub>1</sub>	7	1	4
B <sub>2</sub>	4	2	9
B <sub>3</sub>	5	4	7

TWO-Factor  
Factorial  
Design  
(T.F.F.D.)  
(two-way)

complete  
Factorial  
balanced  
design



### ANOVA Summary Table

CRD

	df	SS	MS	F	P
Tr	$k-1$	SST	MST	F	
Err	$n-k$	SSE	MSE	///	
total	$n-1$	SSTot	///	///	

$k = \#$  of treatment  
 $n = \text{total } \#$  of obs

RBD

	df	SS	MS	F	P
Tr	$k-1$	SST	MST	$F_T$	
B	$b-1$	SSB	MSB	$F_B$	
Err	$n-k-b+1$	SSE	MSE	///	
total	$n-1$	SSTot	///	///	

TFFD

	df	SS	MS	F	P
Tr	$df_T$	SST	MST	$F_T$	
A	$a-1$	SSA	MSA	$F_A$	
B	$b-1$	SSB	MSB	$F_B$	
AB	$(a-1) \times (b-1)$	SSAB	MSAB	$F_{AB}$	
Err	$ab - (a-1) - (b-1) - 1$	SSE	MSE	///	
total	$n-1$	SSTot	///	///	

SST

