Following is the example of three factor factorial experiment involving three fixed factors, say, A, B and C.

Factor A	Factor B								$y_{i\cdots}$
	B1				B2				
	Factor C				Factor C				
	C1		C2		C1		C2		
A1	-3		-1		-1		1		
	-1	-4	0	-1	0	-1	1	2	-4
A2	0		2		2		6		
	1	1	1	3	3	5	5	11	20
A3	5		7		7		10		
	4	9	6	13	9	16	11	21	59
$y_{\cdot jk\cdot}$	6		15		20		34		75 ($y_{\cdots}$)
$y_{\cdot j\cdots}$	21				54				

$y_{\cdot\cdot k\cdot}$ → 6 + 20 = 26 and 15 + 34 = 49

$A \times B$

A	B	
	B1	B2
A1	-5	1
A2	4	16
A3	22	37

$A \times C$

A	C	
	C1	C2
A1	-5	1
A2	6	14
A3	25	34

$B \times C$

B	C	
	C1	C2
B1	6	15
B2	20	34

✚	Grand Total	75
✚	Correction Factor	234.38
✚	TSS	336.63
✚	SSA	252.75
✚	SSB	45.38
✚	SSC	22.04
✚	SSAB	5.25
✚	SSAC	0.58
✚	SSBC	1.04
✚	SSABC	1.08
✚	SS Error	8.50

ANOVA Table

SOV	DF	SS	MS	F Value	F-Crit
A	2	252.75	126.375		
B	1	45.38	45.375		
C	1	22.04	22.042		
AB	2	5.25	2.625	3.706	3.89
AC	2	0.58	0.292	0.412	3.89
BC	1	1.04	1.042	1.471	4.75
ABC	2	1.08	0.542	0.765	3.89
Error	12	8.50	0.708		
Total	23	336.63			

Note: SS(AB) was not pooled with Error, since corresponding F value and F-Crit value are close to each other.

Revised ANOVA

SOV	DF	SS	MS	F Value	F-Crit
A	2	252.75	126.375	191.677	3.59
B	1	45.38	45.375	68.622	4.45
C	1	22.04	22.042	33.431	4.45
AB	2	5.25	2.625	3.981	3.59
Pooled Error	17	11.21	0.659		
Total	23	336.63			

* Highlighted figures in the previous table are added to get the pooled figures

Conclusion: Main factors and AB interaction have significant effect on the response.