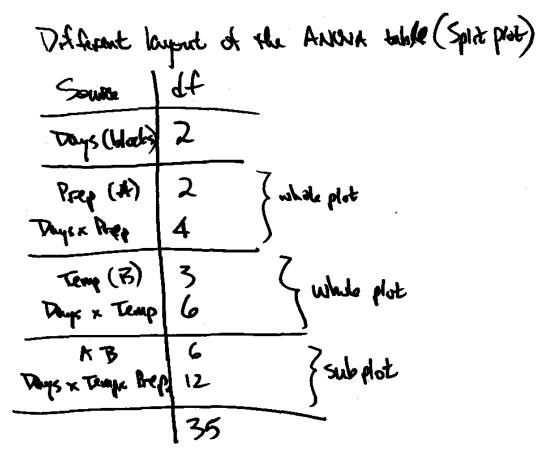
Jut 206 Kandomization restrictions 4- 17-25 Example: Paper manufacturing (1)Factor A : pulp preparation method 3 levels, fixed Fuctor B: Cooking temperature 4 levels, fixed Run 3 replications, So there are 3x 4x 3= 36 muss but... To sun it as a complete randomized design, the 3c must must be done in random order. They can only do T2 shows per day. 2 To run it as a rendanized complete block design, the 12 runs on each day much be done in a rundom arder. hut ... Each day, they randomly select a pulp preparation milled, + properse a batch of pulp They divide it into 4 agreed parts + cake each part at a deferent temperature. Depeart for the other 2 perparation makeds.

Nodel 
$$y_{ijkl} = 7_i + [j + \delta_k + 7\beta \delta_{ijk} + 7\beta \delta_{ijk} + \beta \delta_{ijk} + \delta_{ijk} + \beta \delta_{ijk} + \delta_{ijk} +$$

(4)

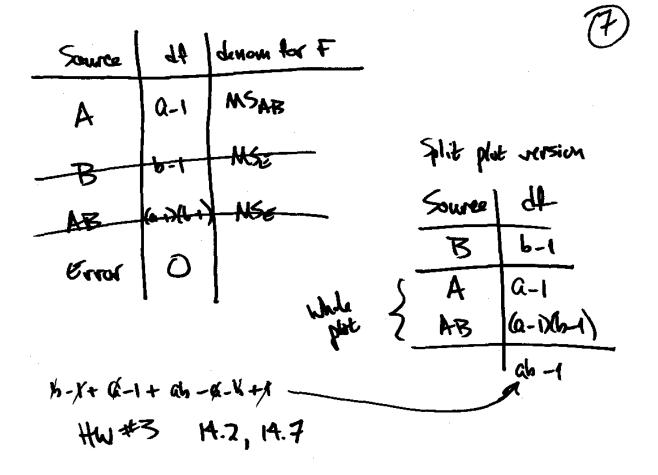


Revisit the RCBD
i = 1, ..., 0 

 $y = \mu + T_i + \beta_j + 2\beta i +$ 

 $\bigcirc$ 

 $\mathfrak{G}$ 



## Stat 4/566 HW#3

14.2. The surface finish of metal parts made on four machines is being studied. An experiment is conducted in which each machine is run by three different operators and two specimens from each operator are collected and tested. Because of the location of the machines, different operators are used on each machine, and the operators are chosen at random. The data are shown in the following table. Analyze the data and draw conclusions.

	Machine 1			Machine 2			Machine 3			Machine 4		
Operator	1	2	3	1	2	3	1	2	3	1	2	3
	79	94	46	92	85	76	88	53	46	36	40	62
	62	74	57	99	79	68	75	56	57	53	56	47

14.7. Derive the expected mean squares for a balanced three-stage nested design, assuming that A is fixed and that B and C are random. Obtain formulas for estimating the variance components. Assume the restricted form of the mixed model.