

## Homework 6

1. Using the data in 14-11, show that  $PMM(A_1)$  is estimable (assume both A and B are fixed)–look at the unbalanced nested example in the article for help in constructing  $PMM(A_1)$ . Analyze the data and report the LSMEANS.
2. The following data set is taken from: Kuehl, R.O. (2000) "Design of Experiments. Statistical Principles of Research Design and Analysis, 2nd edition" Duxbury: Pacific Grove, CA. The following repeated measures design measured serum glucose levels on subjects randomly assigned to 3 different foods.

Diet	Subject	Time (minutes)		
		15	30	45
1	1	28	34	32
	2	15	29	27
	3	12	33	28
	4	21	44	39
2	5	22	18	12
	6	23	22	10
	7	18	16	9
	8	25	24	15
3	9	31	39	39
	10	28	27	36
	11	24	26	36
	12	21	26	32

Analyze the data using Subject as a random effect (Compound Symmetry). Use the REPEATED statement in PROC MIXED to explore other covariance structures for the repeated measures factor Time. Which model seems most appropriate?