

- 2.) I am testing the effect of four different drug concentrations on a response variable Y . I have five observations per cell. The layout is:

$0 \mu g$		$10 \mu g$		$20 \mu g$		$30 \mu g$	
x	x	x	x	x	x	x	x
	x		x		x		x
x	x	x	x	x	x	x	x

- a) The researcher feels that from $0 \mu g$ to $10 \mu g$ there should be no response, then from $10 \mu g$ to $30 \mu g$ there should be a linear response. Find 2 orthogonal contrasts which test these hypotheses.

- b) Find a third contrast orthogonal to the two contrasts of a).

- c) Would doing Dunnett's test provide the same information as the contrasts of part a)? Why?

3) In an experiment, I wish to compare two specific assaying methods for LDL cholesterol. I randomly select two technicians to try out each method. Four subjects are randomly selected to participate in the study. Each technician will use each method twice on each subject to measure LDL cholesterol.

a) Write out the ANOVA table with source, d.f. and EMS (use the algorithm).

b) Outline your post F-test analysis.

		A			
		1	2	3	4
B	1	x	x	x	x
	2	x	x	x	x
	3	x	x	x	x
	4	x	x	x	x

4) Investigating two fixed factors A and B , Joe Blow does the Tukey analysis getting:

Source	df	ss
A	3	180
B	3	40
non-additivity	1	12
error	8	72

a) What can Joe conclude?

b) In reviewing Joe's work, you discover that there were really two observations per cell and that Joe only used the average in his analysis. Using the individual data points, how would you analyze the data and check Joe's conclusions?