

The General Linear Model consists of

- a response variable,
- one or more explanatory variables,
- parameters that relate response to explanatory variable(s),
- an error term.

1. Steel and Torrie (Principles and Procedures of Statistics 1960) report oat yield (Yield = bushels/acre) of untreated seeds compared to seeds treated with Ceresan (tr = Ceresan or not), in 4 blocks.

1a. Assign symbols to the response and explanatory variables.

1b. Write a General linear model for the analysis.

$$\text{_____} = \text{_____}$$

1c. Fill in the ANOVA table below.

```
MTB > anova 'yield' = 'tr' 'block';  
SUBC> random 'block'.
```

Factor	Type	Levels	Values			
tr	fixed	2	0	1		
block	random	4	1	2	3	4

Analysis of Variance for yield

Source	DF	SS	MS	F	P
tr	1	424.861	424.861		0.001
block				28.32	0.011
Error	_____	9.974	3.325		
Total	7	717.299	102.471		

2. Draw an example of an acceptable plot of residual versus fitted values.