

Section 6.4: Check Your Knowledge

Question 1:

A manufacturer was interested in comparing the time it takes workers to assemble an electronic circuit board under direct and indirect light. Five workers were chosen at random. Each worker assembled two boards under direct light and two boards under indirect light. The following table show the ANOVA df, SS and MS for the various sources of variability.

Source	df	SS	MS
light	1	110.450	110.45
worker	4	149.700	37.425
light*worker	4	54.300	13.575
Error	10	38.500	3.850

- (a) What is the value of the F-statistic for testing for the main effect of light assuming that worker is a random effect?
- (b) What is the value of the F statistic for testing for the main effect of light assuming that worker is a fixed effect?
- (c) Which one is more appropriate in this case?

Question 2:

The text file "HospitalData" has the data for the hospital example in this lesson. Analyze the data using MIXED thus duplicating the analysis in the textbook.

Question 3:

The text file "AgronomyData" has the data from the agronomy example we examined in Section 6.2.

- (a) Analyze the data using MIXED with treatment as a fixed factor and block as a random factor.
- (b) Analyze the data using the GLM analysis (as we did in Section 6.2).
- (c) Compare the analyses in parts (a) and (b).