Chapter 17 Problems

1a.

Source	SS	df	MS	F
A (drug)	60.667	2	30.333	0.76
S/A -	359.750	9	39.972	
B (day)	28.417	3	9.472	3.35 *
A x B	106.833	6	17.806	6.30 *
B x S/A	76.250	27	2.824	
Total	631.92	47		

*: $p < .05$. Information for all sources except "Total" is from spss output.

1b.

Source	R^2	df	Mean R^2	F
A (drug)	.09600	2	.04800	0.76
S/A	.5693	9	.06326	
B (day)	.04497	3	.01499	3.35 *
A x B	.1691	6	.02818	6.30 *
B x S/A	.1207	27	.004470	
Total	1.00	47		

*: $p < .05$. R^2 for all sources except "Total" is from spss output.

General Linear Model

Descriptive Statistics

	Drug received	Mean	Std. Deviation	N
Learning test score - Day 1	Control	7.2500	3.40343	4
	Drug 1	8.5000	3.69685	4
	Drug 2	8.2500	3.30404	4
	Total	8.0000	3.19090	12
Learning test score - Day 2	Control	10.2500	4.27200	4
	Drug 1	9.0000	2.94392	4
	Drug 2	9.0000	2.16025	4
	Total	9.4167	2.99874	12
Learning test score - Day 3	Control	11.2500	3.86221	4
	Drug 1	8.7500	4.34933	4
	Drug 2	9.7500	3.94757	4
	Total	9.9167	3.82476	12
Learning test score - Day 4	Control	13.7500	3.77492	4
	Drug 1	5.2500	3.50000	4
	Drug 2	10.5000	1.29099	4
	Total	9.8333	4.58918	12

Tests of Within-Subjects Effects

Measure: MEASURE_1

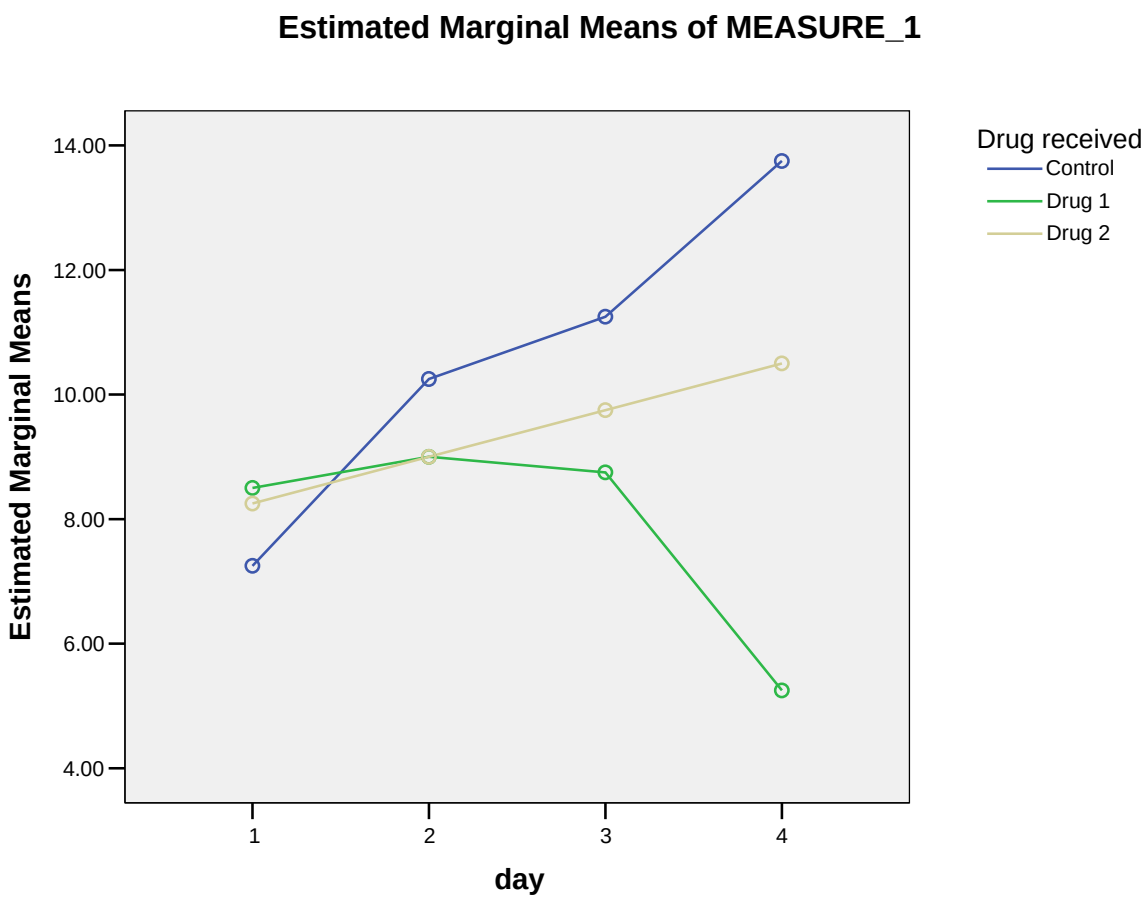
Source		Type III Sum of Squares	df	Mean Square	F	Sig.
day	Sphericity Assumed	28.417	3	9.472	3.354	.033
	Greenhouse-Geisser	28.417	2.084	13.636	3.354	.055
	Huynh-Feldt	28.417	3.000	9.472	3.354	.033
	Lower-bound	28.417	1.000	28.417	3.354	.100
day * drug	Sphericity Assumed	106.833	6	17.806	6.305	.000
	Greenhouse-Geisser	106.833	4.168	25.633	6.305	.002
	Huynh-Feldt	106.833	6.000	17.806	6.305	.000
	Lower-bound	106.833	2.000	53.417	6.305	.019
Error(day)	Sphericity Assumed	76.250	27	2.824		
	Greenhouse-Geisser	76.250	18.755	4.065		
	Huynh-Feldt	76.250	27.000	2.824		
	Lower-bound	76.250	9.000	8.472		

Tests of Between-Subjects Effects

Measure: MEASURE_1
Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	4144.083	1	4144.083	103.674	.000
drug	60.667	2	30.333	.759	.496
Error	359.750	9	39.972		

Profile Plots



Regression - DV on A

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.310[a]	.096	.056	3.563

a. Predictors: (Constant), a2, a1

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.667	2	30.333	2.389	.103[a]
	Residual	571.250	45	12.694		
	Total	631.917	47			

a. Predictors: (Constant), a2, a1

b. Dependent Variable: Learning test score

Regression - DV on S/A

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.569	.467	2.676

a. Predictors: (Constant), s9, s6, s3, s8, s4, s2, s7, s5, s1

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	359.750	9	39.972	5.581	.000[a]
	Residual	272.167	38	7.162		
	Total	631.917	47			

a. Predictors: (Constant), s9, s6, s3, s8, s4, s2, s7, s5, s1

b. Dependent Variable: Learning test score

Regression - DV on B

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.212[a]	.045	-.020	3.703

a. Predictors: (Constant), b3, b2, b1

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.417	3	9.472	.691	.563[a]
	Residual	603.500	44	13.716		
	Total	631.917	47			

a. Predictors: (Constant), b3, b2, b1

b. Dependent Variable: Learning test score

Regression - DV on A x B

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.411[a]	.169	.047	3.579

a. Predictors: (Constant), a2b3, a2b2, a2b1, a1b3, a1b2, a1b1

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.833	6	17.806	1.390	.242[a]
	Residual	525.083	41	12.807		
	Total	631.917	47			

a. Predictors: (Constant), a2b3, a2b2, a2b1, a1b3, a1b2, a1b1

b. Dependent Variable: Learning test score

Regression - DV on A, B, A x B, and S/A

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.938[a]	.879	.790	1.680

a. Predictors: (Constant), s9, s6, s3, a2b3, a2b2, a2b1, a1b3, a1b2, a1b1, b3, b2, b1, a2, a1, s8, s4, s2, s7, s5, s1

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	555.667	20	27.783	9.838	.000[a]
	Residual	76.250	27	2.824		
	Total	631.917	47			

a. Predictors: (Constant), s9, s6, s3, a2b3, a2b2, a2b1, a1b3, a1b2, a1b1, b3, b2, b1, a2, a1, s8, s4, s2, s7, s5, s1

b. Dependent Variable: Learning test score