```
SAVE OUTFILE='/Users/buchanan/e_files/TEACHING/200 Statistics/nolan 2nd/exam/exam 3/exam 3.sav'
  /COMPRESSED.
T-TEST
  /TESTVAL=6.3
  /MISSING=ANALYSIS
  /VARIABLES=frustration
  /CRITERIA=CI(.95).
```

T-Test

```
[DataSet0] /Users/buchanan/e_files/TEACHING/200 Statistics/nolan 2nd/exam/exam 3/exam 3.sav
```

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
frustration	10	3.9000	1.59513	.50442

One-Sample Test

	Test Value = 6.3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
frustration	-4.758	9	.001	-2.40000	-3.5411	-1.2589

```
T-TEST GROUPS=indtgroup(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=blood
  /CRITERIA=CI(.95).
```

T-Test

[DataSet0] /Users/buchanan/e_files/TEACHING/200 Statistics/nolan 2nd/exam/exam 3/exam 3.sav

Group Statistics

	indtgroup	N	Mean	Std. Deviation	Std. Error Mean
blood	bio	10	109.7000	12.81536	4.05257
	diet	10	108.8000	15.80295	4.99733

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
blood	Equal variances assumed	1.035	.322	.140	18	.890	.90000	6.43402	-12.61738	14.41738
	Equal variances not assumed			.140	17.264	.890	.90000	6.43402	-12.65883	14.45883

```
ONEWAY lifesat BY anova
  /STATISTICS DESCRIPTIVES HOMOGENEITY
  /MISSING ANALYSIS
  /POSTHOC=TUKEY BONFERRONI ALPHA(0.05).
```

Oneway

[DataSet0] /Users/buchanan/e_files/TEACHING/200 Statistics/nolan 2nd/exam/exam 3/exam 3.sav

Descriptives

lifesat

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
young	10	4.0000	1.63299	.51640	2.8318	5.1682	2.00	7.00
middle	10	7.0000	1.49071	.47140	5.9336	8.0664	5.00	10.00
old	10	10.0000	1.82574	.57735	8.6939	11.3061	7.00	13.00
Total	30	7.0000	2.95950	.54033	5.8949	8.1051	2.00	13.00

Test of Homogeneity of Variances

lifesat

Levene Statistic	df1	df2	Sig.
.360	2	27	.701

ANOVA

lifesat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	180.000	2	90.000	32.838	.000
Within Groups	74.000	27	2.741		
Total	254.000	29			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: lifesat

	(I) anova	(J) anova	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	young	middle	-3.00000*	.74037	.001	-4.8357	-1.1643

		old	-6.00000*	.74037	.000	-7.8357	-4.1643
	middle	young	3.00000*	.74037	.001	1.1643	4.8357
		old	-3.00000*	.74037	.001	-4.8357	-1.1643
	old	young	6.00000*	.74037	.000	4.1643	7.8357
		middle	3.00000*	.74037	.001	1.1643	4.8357
Bonferroni	young	middle	-3.00000*	.74037	.001	-4.8898	-1.1102
		old	-6.00000*	.74037	.000	-7.8898	-4.1102
	middle	young	3.00000*	.74037	.001	1.1102	4.8898
		old	-3.00000*	.74037	.001	-4.8898	-1.1102
	old	young	6.00000*	.74037	.000	4.1102	7.8898
		middle	3.00000*	.74037	.001	1.1102	4.8898

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

lifesat

			Subset for alpha = 0.05		
	anova	N	1	2	3
Tukey HSD[a]	young	10	4.0000		
	middle	10		7.0000	
	old	10			10.0000
	Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 10.000.

```
T-TEST PAIRS=pre WITH post (PAIRED)
  /CRITERIA=CI(.9900)
  /MISSING=ANALYSIS.
```

T-Test

[DataSet0] /Users/buchanan/e_files/TEACHING/200 Statistics/nolan 2nd/exam/exam 3/exam 3.sav

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre	13.2000	10	2.61619	.82731
	post	14.6000	10	2.31900	.73333

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pre & post	10	.839	.002

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					99% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	pre - post	-1.40000	1.42984	.45216	-2.86943	.06943	-3.096	9	.013