

**6. Car Crash Tests** The following table lists results from car crash tests. The listed values are measures of chest deceleration (in g) categorized by type (whether the car is foreign or domestic) and car size (small, midsize, large). Results from two-way analysis of variance are also displayed. Use the displayed results and use a 0.05 significance level. What do you conclude?

	Size of Car		
	Small	Medium	Large
Foreign	44	41	32
	54	49	45
	43	47	42
Domestic	43	43	37
	44	37	38
	42	34	33

## MINITAB

Two-way ANOVA: Deceleration versus Type, Size

Source	DF	SS	MS	F	P
Type	1	117.556	117.556	5.44	0.038
Size	2	154.778	77.389	3.58	0.060
Interaction	2	14.778	7.389	0.34	0.717
Error	12	259.333	21.611		
Total	17	546.444			

**7. Verbal IQ Scores** Example 1 in this section used *performance* IQ scores from Data Set 5 in Appendix B for two-way analysis of variance with the factors of sex (male, female) and measured blood lead level (low, medium, high). If we use the *verbal* IQ scores with those same factors, we get the accompanying results. Use the displayed results and use a 0.05 significance level. What do you conclude?

## MINITAB

Two-way ANOVA: VERBAL versus SEX, LEAD

Source	DF	SS	MS	F	P
SEX	1	700.83	700.833	4.58	0.043
LEAD	2	42.47	21.233	0.14	0.871
Interaction	2	321.27	160.633	1.05	0.365
Error	24	3670.40	152.933		
Total	29	4734.97			

**8. Pancake Experiment** Listed below are ratings of pancakes made by experts (based on data from Minitab). Different pancakes were made with and without a supplement and with different amounts of whey. The results from two-way analysis of variance are shown. Use the displayed results and a 0.05 significance level. What do you conclude?

	Whey											
	0%			10%			20%			30%		
No Supplement	4.4	4.5	4.3	4.6	4.5	4.8	4.5	4.8	4.8	4.6	4.7	5.1
Supplement	3.3	3.2	3.1	3.8	3.7	3.6	5.0	5.3	4.8	5.4	5.6	5.3

## MINITAB

Two-way ANOVA: Quality versus Supplement, Whey

Source	DF	SS	MS	F	P
Supplement	1	0.5104	0.51042	17.01	0.001
Whey	3	6.6912	2.23042	74.35	0.000
Interaction	3	3.7246	1.24153	41.38	0.000
Error	16	0.4800	0.03000		
Total	23	11.4062			