

Problem 1: A food critic is analyzing how people rate their food. The critic is particularly interested in how the level of comfort, the amount of control in varying the dish, and how natural ingredients are affect the person’s rating of the food. Therefore, the researcher runs a one-way ANOVA of the quantitative variable “score” against three qualitative variables: “comfort”, “control”, and “organic.” The results are found below.

Source	DF	SS	MS	F	P
Food	_____	5.330	_____	_____	0.001
Error	_____	20.930	_____		
Total	61	_____			

S = _____ R-Sq = 20.30% R-Sq (adj)=17.59%

Level	N	Mean	StDev
Comfort	22	4.8873	0.5729
Control	20	5.0825	0.6217
Organic	20	5.5835	0.5936

Pooled StDev = _____

Number of data points = _____

- (a) Fill in the missing parts in the output above.
- (b) State the null and alternative hypotheses for the F -test in the ANOVA table above. State the conclusions of this test using $\alpha = 0.05$.
- (c) Using an appropriate contrast, we would like to compare the mean score of the control group with the average of the other groups. Compute the sample contrast, the standard error of the sample contrast, the t -statistic, and its degrees of freedom. State your conclusions