**13.2** Observations are taken on sales of a certain mountain bike in 30 sporting goods stores. The regression model was Y = total sales (thousands of dollars), X1 = display floor space (square meters), X2 = competitor’s advertising expenditures (thousands of dollars), X3 = advertised price (dollars per unit), (a) Write the fitted regression equation. (b) Interpret each coefficient. (c) Would the intercept be likely to have meaning in this regression? (d) Make a prediction for *Sales* when *FloorSpace* = 80, *CompetingAds* = 100, and *Price* = 1,200. **Bikes**

**13.4** Refer to the ANOVA table for this regression. (a) State the degrees of freedom for the F test for overall significance. (b) Use Appendix F to look up the critical value of *F* for  = .05. (c) Calculate the *F* statistic. Is the regression significant overall? (d) Calculate *R2 = R2adj,* showing your formulas clearly. **Bikes**

**13.6** Observations are taken on sales of acertain mountain bike in 30 sporting goods stores. The regression model was *Y* = total sales (thousands of dollars), X1 = display floor space (square meters), X2 = competitor’s advertising expenditures (thousands of dollars), X3 = advertised price (dollars per unit), X4 = rebate rate (percent of retail price). (a) Calculate the t statistic for each coefficient to test for = 0. (b) Look up the critical value of Student’s *t* in Appendix D for a two-tailed test at = .01. Which coefficients differ significantly from zero? (c) Use Excel to find the p-value for each coefficient. **Bikes**