1. The manager of a computer software company wishes to study the number of hours senior executives spend at their desktop computers by type of industry. The manager selected a sample of five executives from each of three industries. At the .05 significance level, can she conclude there is a difference in the mean number of hours spent per week by industry?

Banking Retail Insurance

12 8 10

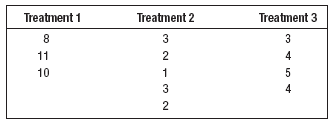
10 8 8

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2. Given the following sample information, test the hypothesis that the treatment means are equal at the .05 significance level.



a. State the null hypothesis and the alternate hypothesis.

b. What is the decision rule?

c. Compute SST, SSE, and SS total.

d. Complete an ANOVA table.

e. State your decision regarding the null hypothesis.

f. If H0 is rejected, can we conclude that treatment 1 and treatment 2 differ?

Use the 95 percent level of confidence.

3. The chief of security for the Mall of the Dakotas was directed to study the problem of missing goods. He selected a sample of 100 boxes that had been tampered with and ascertained that for 60 of the boxes, the missing pants, shoes, and so on were attributed to shoplifting. For 30 other boxes employees had stolen the goods, and for the remaining 10 boxes he blamed poor inventory control. In his report to the mall management, can he say that shoplifting is twice as likely to be the cause of the loss as compared with either employee theft or poor inventory control and that employee theft and poor inventory control are equally likely? Use the .02 significance level.

4. In a particular market there are three commercial television stations, each with its own evening news program from 6:00 to 6:30 P.M. According to a report in this morning’s local newspaper, a random sample of 150 viewers last night revealed 53 watched the news on WNAE (channel 5), 64 watched on WRRN (channel 11), and 33 on WSPD (channel 13). At the .05 significance level, is there a difference in the proportion of viewers watching the three channels?