6. 3D TVs Listed below are prices (dollars), quality scores, and ranks (1 = best) for six different 3D televisions (based on data from *Consumer Reports*). Use a 0.05 significance level to test for a linear correlation between price and quality score. Do you get more quality by paying more?

Price	1350	1900	3600	1800	900	950
Quality score	81	74	74	71	70	69
Rank	1	2	3	4	5	6

7. 3D TVs Refer to the prices and ranks from the preceding exercise. Use a 0.05 significance level to test for a correlation between price and rank.

8. Subway Survey In a study of 740 pay telephones in New York City underground subway stations, it was found the 229 were not functioning (based on data from NYPIRG Straphangers Campaign). Construct a 95% confidence interval estimate of the proportion of all such pay telephones that are not functioning. Based on the result, what can we conclude about a claim that 25% of all such telephones are not functioning?

9. Sample Size Advances in technology are dramatically affecting different aspects of our lives. For example, the number of daily newspapers is decreasing because of easy access to Internet and television news. To help address such issues, we want to estimate the percentage of adults in the United States who use a computer at least once each day. Find the sample size needed to estimate that percentage. Assume that we want 90% confidence that the sample percentage is within two percentage points of the true population percentage.

10. Cell Phones and Crashes: Analyzing Newspaper Report In an article from the Associated Press, it was reported that researchers "randomly selected 100 New York motorists who had been in an accident and 100 who had not been in an accident. Of those in accidents, 13.7 percent owned a cellular phone, while just 10.6 percent of the accident-free drivers had a phone in the car." What is wrong with these results?

Technology Project

Past attempts to identify or contact extraterrestrial intelligent life have involved efforts to send radio messages carrying information about us earthlings. Dr. Frank Drake of Cornell University developed such a radio message that could be transmitted as a series of pulses and gaps. The pulses and gaps can be thought of as 1s and 0s. Listed below is a message consisting of 77 0s and 1s. If we factor 77 into the prime numbers of 7 and 11 and then make an 11×7 grid and put a dot at those positions corresponding to a pulse of 1, we can get a simple picture of something. Assume that the sequence of 77 1s and 0s is sent as a radio message that is intercepted by extraterrestrial life with enough intelligence to have studied this book. If the radio message is tested using the methods of this chapter, will the sequence appear to be "random noise" or will it be identified as a pattern that is not random? Also, construct the image represented by the digits and identify it.

0 0 1 1 1 0 0 0 0 1 1 1 0 0 0 0 0 1 0 0 0
1 1 1 1 1 1 1 0 0 1 1 1 0 0 0 0 1 1 1 0 0
0 0 1 1 1 0 0 0 1 0 0 0 1 0 1 0 0 0 0 1 0
1 0 0 0 0 1 0 1 0 0 0 0 1 0