6. Home Field Advantage Winning-team data were collected for teams in different sports, with the results given in the accompanying table (based on data from "Predicting Professional Sports Game Outcomes from Intermediate Game Scores," by Copper, DeNeve, and Mosteller, *Chance*, Vol. 5, No. 3–4). Use a 0.05 level of significance to test the claim that home/visitor wins are independent of the sport.

	Basketball	Baseball	Hockey	Football
Home Team Wins	127	53	50	57
Visiting Team Wins	71	47	43	42

Cumulative Review Exercises

Please be aware that some of the following problems may require knowledge of concepts presented in previous chapters.

1. Weather-Related Deaths Review Exercise 3 involved weather-related deaths. Among the 489 deaths included in the table, 325 are males. Use a 0.05 significance level to test the claim that among those who die in weather-related deaths, the percentage of males is equal to 50%.

2. Cigarette Costs In an American Express survey of 1000 adults 18 and older, 62% said that cigarettes should cost more to help offset potential negative health effects. Use the sample data to construct a 95% confidence interval estimate of the percentage of all adults who share that same belief. What can we conclude about a claim that half of all adults share that same belief?

3. ICU Patients Listed below are the ages of randomly selected patients in intensive care units (based on data from "A Multifaceted Intervention for Quality Improvement in a Network of Intensive Care Units," by Scales et al., *Journal of the American Medical Association,* Vol. 305, No. 4). Find the mean, median, and standard deviation. Based on the results, is an age of 16 years *unusual*? Why or why not?

38 64 35 67 42 29 68 62 74 58

4. ICU Patients Use the sample of ages from Exercise 3 to construct a 95% confidence interval estimate of the mean age of the population of ICU patients. Do the confidence interval limits contain the value of 65.0 years that was found from a sample of 9269 ICU patients?

5. Boats and Manatees The table below lists the numbers of registered pleasure boats (thousands) in Florida and the numbers of watercraft-related manatee deaths for each year of the past decade.

Boats	90	92	94	95	97	99	99	97	95	90
Manatee Deaths	81	95	73	69	79	92	73	90	97	83

a. Test for a linear correlation between the numbers of boats and the numbers of manatee deaths.

b. Find the equation of the regression line. Use the numbers of boats for the independent x variable.

c. What is the best predicted number of manatee deaths for the year preceding those included in the table? For that year, there were 84 (thousand) registered pleasure boats in Florida. How accurate is that predicted value, given that there were actually 78 manatee deaths in that year?