c. Find the linear correlation coefficient using only the four points in the lower left corner (for women). Will the four points in the upper left corner (for men) have the same linear correlation coefficient?

d. Find the value of the linear correlation coefficient using all eight points. What does that value suggest about the relationship between x and y?

e. Based on the preceding results, what do you conclude? Should the data from women and the data from men be considered together, or do they appear to represent two different and distinct populations that should be analyzed separately?

Testing for a Linear Correlation. ***In Exercises 13–28, construct a scatterplot, and find the value of the linear correlation coefficient r. Also find the P-value or the critical values of r from Table A-6 using $\alpha = 0.05$. Determine whether there is sufficient evidence to support a claim of a linear correlation between the two variables. (Save your work because the same data sets will be used in Section 10-3 exercises.)***

13. Lemons and Car Crashes Listed below are annual data for various years. The data are weights (metric tons) of lemons imported from Mexico and U.S. car crash fatality rates per 100,000 population [based on data from "The Trouble with QSAR (or How I Learned to Stop Worrying and Embrace Fallacy)" by Stephen Johnson, *Journal of Chemical Information and Modeling*, Vol. 48, No. 1]. Is there sufficient evidence to conclude that there is a linear correlation between weights of lemon imports from Mexico and U.S. car fatality rates? Do the results suggest that imported lemons cause car fatalities?

Lemon Imports	230	265	358	480	530
Crash Fatality Rate	15.9	15.7	15.4	15.3	14.9

14. PSAT and SAT Scores Listed below are PSAT scores and SAT scores from prospective college applicants. The scores were reported by subjects who responded to a request posted by the Web site talk.collegeconfidential.com. Is there sufficient evidence to conclude that there is a linear correlation between PSAT scores and SAT scores? Is there anything about the data that might make the results questionable?

PSAT	183	207	167	206	197	142	193	176
SAT	2200	2040	1890	2380	2290	2070	2370	1980

15. Campus Crime Listed below are numbers of enrolled students (in thousands) and numbers of burglaries for randomly selected large colleges in a recent year (based on data from the *New York Times*). Is there sufficient evidence to conclude that there is a linear correlation between enrollment and burglaries? Do the results change if the actual enrollments are listed as 32,000, 31,000, 53,000, and so on?

Enrollment	32	31	53	28	27	36	42	30	34	46
Burglaries	103	103	86	57	32	131	157	20	27	161

16. Altitude and Temperature Listed below are altitudes (thousands of feet) and outside air temperatures (degrees Fahrenheit) recorded by the author during Delta Flight 1053 from New Orleans to Atlanta. Is there sufficient evidence to conclude that there is a linear correlation between altitude and outside air temperatue? Do the results change if the altitudes are reported in meters and the temperatures are converted to the Celsius scale?

Altitude	3	10	14	22	28	31	33
Temperature	57	37	24	−5	−30	−41	−54