Problem Set: 4.1

1. The number of insurance policies written by the Homeowners Mutual Insurance Company from 1997 to 2004 is given in Display 4.12. Make a scattergram of the data. Use the horizontal axis to represent the year and the vertical axis to represent the number of policies written. Do any of the points seem to be out of line with the rest? If so, explain why you think this happened.

Year	Number of Policies Written
1997	67,022
1998	73,724
1999	79,622
2000	81,215
2001	77,966
2002	80,123
2003	91,766
2004	93,601

Display 4.12

2. Display 4.13 gives the average speed in miles per hour of the winning auto in the Indianapolis 500 automobile race every other year from 1911 through 2003. Display 4.14 shows a graph of the same data but charts the race every 10 years.

(**a**) How do you think the speeds in the table were calculated?

(**b**) We forgot to graph the data for the year 1979, in which Rick Mears was the winner with an average speed of 158.9 miles per hour. Plot the point corresponding to this data.

(**c**) Why do you suppose there are gaps in the data corresponding to the years 1917, 1943, and 1945?

(**d**) What is the overall trend you observe? Is it easier to observe this trend from the table or from the graph?

(**e**) Do you notice any exceptions to this trend? Can you think of anything that might explain these exceptions?

(**f**) Write a question that you find interesting and that would be easier to answer from the table rather than from the graph.

(**g**) Write a question that you find interesting and that would be easier to answer from the graph rather than from the table.