Plotting Points, Interpreting Data

Auto Theft Version

The FBI's Uniform Crime Reports indicate South Carolina's rates of Vehicle Theft (per 10,000 residents) were as follows:

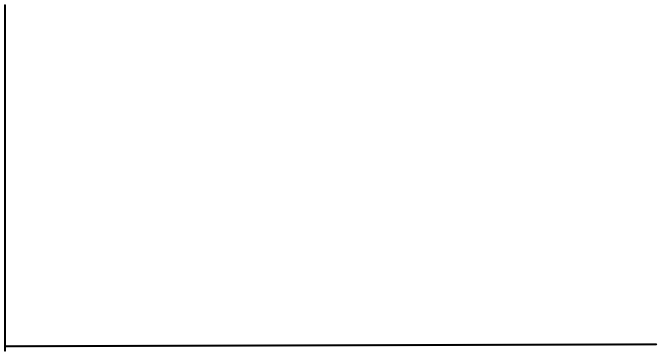
YEAR	1984	1986	1988	1990	1992	1994	1997	2000
VEHICLE THEFTS PER 10 000 RESIDENTS	23.9	27.7	30.5	38.6	34.5	36.0	41.9	37.9

I. Examine the data and **describe** the trend in words:

_____

_____

II. Construct a plot of the data. NOTE: Since we are considering how the rate of Vehicle Theft in South Carolina changes over time, we use time as our independent variable, or x-value, and plot it on the horizontal axis; we use Vehicle Theft Rate as our dependent variable, or y-value, and plot it on the vertical axis.



Have you clearly labeled both axes so that someone picking up your graph would understand what the points represent, without having to read an accompanying article?

III. Describe your graph in words: _____

_____

IV. If you had to write a one- or two-sentence caption for this graph in a news story about crime in South Carolina, what would you write?

_____

_____

_____

V. Recall from algebra that the slope of a line through two points can be computed as the change in the dependent variable (y-value) divided by the change in the independent variable (x-value) between the two points. In the context of this activity, the slope of the line through two points on your graph is the average annual rate of increase in the Vehicle Theft rate over the time interval described by the two points. Find the average annual rate of increase in the Vehicle Theft rate between 1986 and 1992. Be sure to include units in your response. (For example, the unit in which the speed of your car is expressed is Miles Per Hour. Gravitational force can be expressed in Feet Per Second Per Second or Feet Per Second Square. Vehicle Theft is reported in our data in Thefts Per 10,000 Residents.)

_____ .