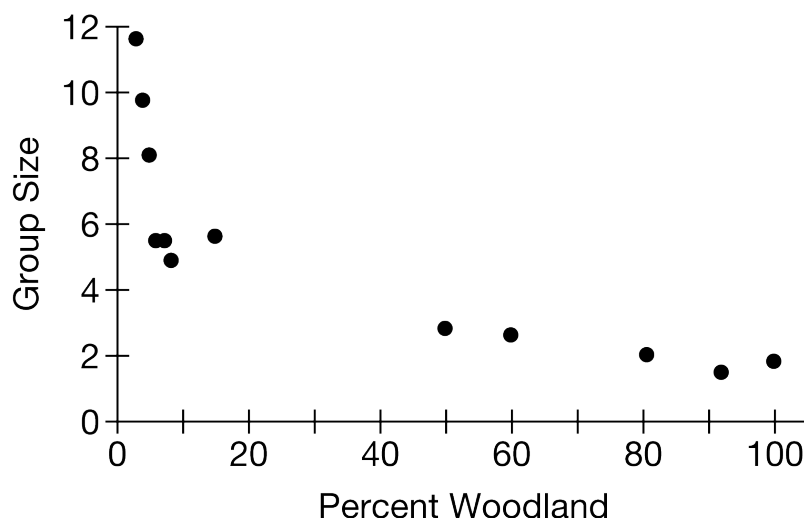


1. Researchers observed the grouping behavior of deer in different regions. The following scatterplot shows data collected on the size of the group and the percent of the region that was woodland.



The relationship between group size and percent woodland appears to be negative and nonlinear. Which of the following statements explains such a relationship?

- (A) As the percent of woodland increases, the number of deer observed in a group decreases at a fairly constant rate.
- (B) As the percent of woodland increases, the number of deer observed in a group increases at a fairly constant rate.
- (C) As the percent of woodland increases, the number of deer observed in a group decreases quickly at first and then more slowly. ✓
- (D) As the percent of woodland increases, the number of deer observed in a group increases quickly at first and then more slowly.
- (E) As the percent of woodland increases, the number of deer observed in a group remains fairly constant.

### Answer C

Correct. A negative relationship indicates a tendency for one variable to decrease as the other increases. Nonlinear indicates that the rate of decrease is not constant.

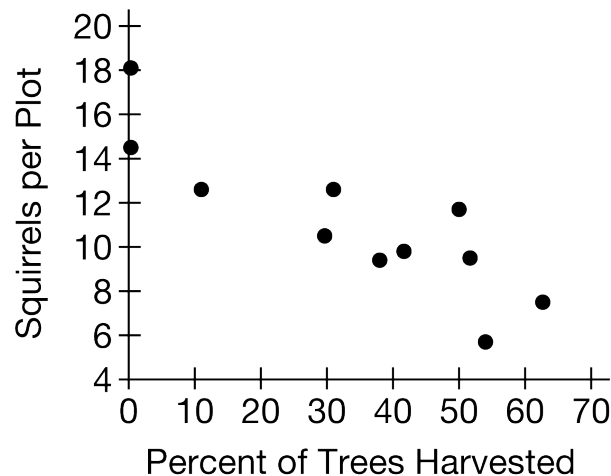
2. Which of the following is the best description of a positive association between two variables?

- (A) The values will create a line when graphed on a scatterplot.
- (B) The values will create a line with positive slope when graphed on a scatterplot.
- (C) As the value of one of the variables increases, the value of the other variable tends to decrease.
- (D) As the value of one of the variables increases, the value of the other variable tends to increase. ✓
- (E) All values of both variables are positive.

**Answer D**

Correct. A positive association indicates a tendency for both variables to move in the positive direction.

3. Clear-cut harvesting of wood from forests creates long periods of time when certain animals cannot use the forests as habitats. Partial-cut harvesting is increasingly used to lessen the effects of logging on the animals. The following scatterplot shows the relationship between the density of red squirrels, in squirrels per plot, 2 to 4 years after partial-cut harvesting, and the percent of trees that were harvested in each of 11 forests.



Which of the following is the best description of the relationship displayed in the scatterplot?

- (A) Negative, linear, and strong ✓
- (B) Positive, linear, and weak
- (C) Negative, nonlinear, and strong
- (D) Positive, nonlinear, and weak
- (E) Positive, nonlinear, and strong

**Answer A**

Correct. The trend is linear and in the negative direction. The points would not be too far from the least-squares regression line, indicating a somewhat strong relationship.