

31 Scatter Plots

Review It!

When you work with scatter plots, remember these words:

scatter plot a graph of data points

line of best fit a line on a scatter plot that most of the points are close to

positive correlation where the line of best fit slopes up

negative correlation where the line of best fit slopes down

A scatter plot is a graph of points that show a relationship between two sets of data. What type of correlation is shown in the scatter plot below?

Step 1 Describe the graph.

Does shoe size increase or decrease as height increases? _____

THINK The points go up as you move right.

Step 2 Draw the line of best fit.

The line shows the trend of the points.

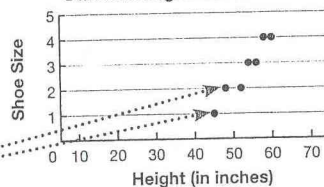
Step 3 Interpret the graph.

A positive slope means a _____ correlation.

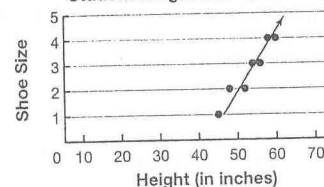
There is a strong _____ correlation because the points are all very close to the line.

As height increases, shoe size increases.

Student Height and Shoe Size



Student Height and Shoe Size



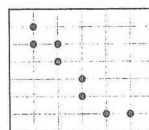
So, the scatter plot shows a strong positive _____

Try It!

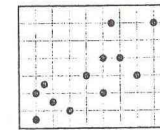
Write *strong positive*, *weak positive*, *strong negative*, *weak negative*, or *no correlation* to describe each graph below.



1.



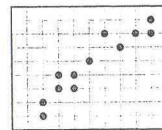
2.



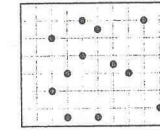
1.

What is the trend of the points?
increasing, or decreasing?

3.



4.

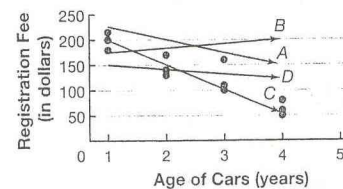


2.

What is the trend of the points?
increasing, or decreasing?

Use the graph below to answer questions 5–7.

Car Age and Registration Fee



5.

Which line is the line of best fit? _____

6.

What type of correlation is shown? _____

7.

What statement can be made about the relationship between the age of a car and the registration fee? _____

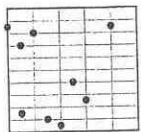
5.

Which line is closest to most points?
A, or C?

On Your Own!

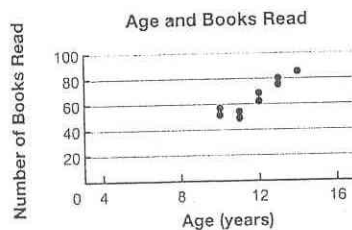
Circle the best answer for each question.

1. What type of correlation is shown in the scatter plot below?



- A. strong positive correlation
- B. no correlation
- C. weak positive correlation
- D. weak negative correlation

2. This scatter plot shows a relationship between age and number of books read.



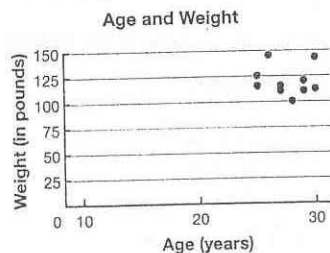
Which best describes the relationship between the variables?

- A. strong negative correlation
- B. weak negative correlation
- C. strong positive correlation
- D. weak positive correlation

3. Armand wants to make a scatter plot of the gallons of heating oil used (vertical scale) and the temperature outside (horizontal scale). What type of line of best fit should Armand expect his scatter plot to show?

- A. a horizontal line
- B. a line with a positive slope
- C. a line with a negative slope
- D. no line of best fit

4. This scatter plot shows a relationship between age and weight.



Which term best describes the relationship between the variables?

- A. no correlation
- B. weak negative correlation
- C. strong positive correlation
- D. weak positive correlation

5. Describe a relationship that has a positive correlation.

6. Describe a relationship that has a negative correlation.

Math Words

Fill in the blanks.

7. The line that is closest to all the data points is the _____

8. If a set of data has a positive correlation, then the line of best fit has a _____ slope.

9. If a set of data has a negative correlation, then the line of best fit has a _____ slope.
