

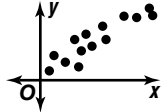
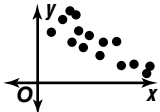
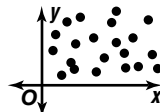
## 6-3

NAME \_\_\_\_\_ DATE \_\_\_\_\_

## Scatter Plots and Best-Fit Lines

(Pages 339–345)

To determine if there is a relationship between a set of data, we can display the data points in a graph called a scatter plot. In a **scatter plot**, the two sets of data are plotted as ordered pairs in the coordinate plane.

Types of Correlations	 <p>In this graph, <math>x</math> and <math>y</math> have a <b>positive correlation</b>. As <math>x</math> increases, <math>y</math> also increases.</p>	 <p>In this graph, <math>x</math> and <math>y</math> have a <b>negative correlation</b>. As <math>x</math> increases, <math>y</math> decreases.</p>	 <p>In this graph, <math>x</math> and <math>y</math> have <b>no correlation</b>. In this case; <math>x</math> and <math>y</math> are not related and are said to be <i>independent</i>.</p>
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You can sometimes draw a line, called a **best-fit line**, that passes close to most of the data points.

## Try These Together

**Explain whether a scatter plot for each pair of variables would probably show a positive, negative, or no correlation between the variables.**

- the number of cars on a freeway and the amount of time for a commute
- a person's weight and the number of siblings they have

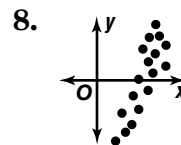
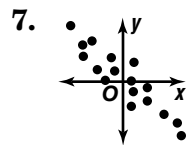
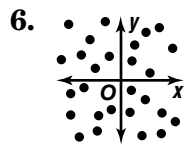
*HINT: As one variable increases, does the other also increase?*

## PRACTICE

**Explain whether a scatter plot for each pair of variables would probably show a positive, negative, or no correlation between the variables.**

- the number of extra-curricular activities and the amount of free-time
- the time a student's homework will take and the weight of their backpack
- the amount of time concert tickets are on sale and the number of tickets left

**Determine whether a best-fit line should be drawn for each set of data graphed below.**



9. **Standardized Test Practice** What type of correlation is there between the number of hours spent talking long distance on the telephone and the amount of the telephone bill?

- A** positive correlation                      **B** no correlation  
**C** negative correlation                    **D** need more information

**Answers:** 1. positive 2. no correlation 3. negative 4. positive 5. negative 6. No,  $x$  and  $y$  do not seem to be related. 7. Yes,  $x$  and  $y$  have a negative correlation. 8. Yes,  $x$  and  $y$  have a positive correlation. 9. A