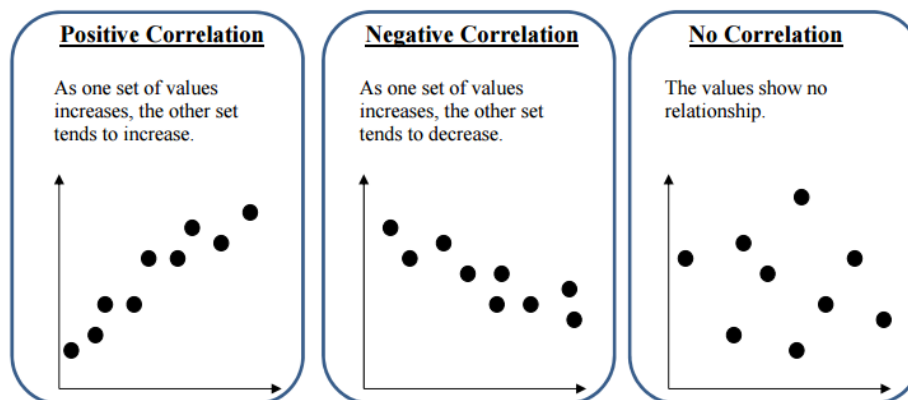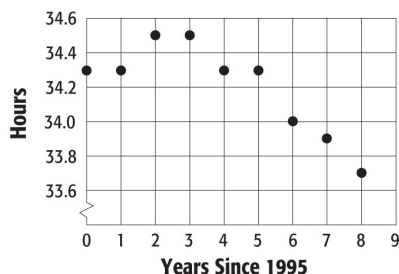# 4-5 Notes
Scatter Plots and Lines of Fit

Investigate Relationships Using Scatter Plots A **scatter plot** is a graph in which two sets of data are plotted as ordered pairs in a coordinate plane. If y increases as x increases, there is a **positive correlation** between x and y. If y decreases as x increases, there is a **negative correlation** between x and y. If x and y are not related, there is **no correlation**.

| **Positive Correlation**	**Negative Correlation**	**No Correlation**
As one set of values increases, the other set tends to increase.	As one set of values increases, the other set tends to decrease.	The values show no relationship.

Exercises

Determine whether each graph shows a *positive correlation*, a *negative correlation*, or *no correlation*. If there is a positive or negative correlation, describe its meaning in the situation.
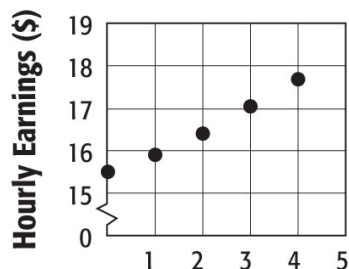
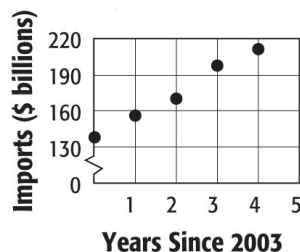**1. Average Weekly Work Hours in U.S.**

Source: *The World Almanac*

2. Average Jogging Speed
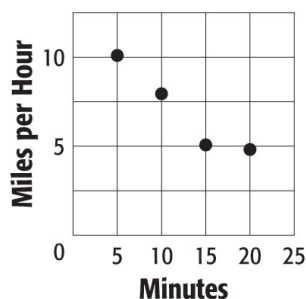
3. **Average U.S. Hourly Earnings**

4. **U.S. Imports from Mexico**

4-5 Notes *(continued)*
Scatter Plots and Lines of Fit

Use Lines of Fit

Example: The table shows the number of students per computer in Easton High School for certain school years from 1996 to 2008.

Year	1996	1998	2000	2002	2004	2006	2008
Students per Computer	22	18	14	10	6.1	5.4	4.9

a. Draw a scatter plot and determine what relationship exists, if any.
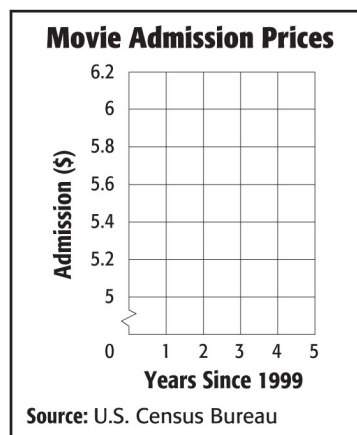
b. Draw a line of fit for the scatter plot.

c. Write the slope-intercept form of an equation for the line of fit.
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Students per Computer in Easton High School
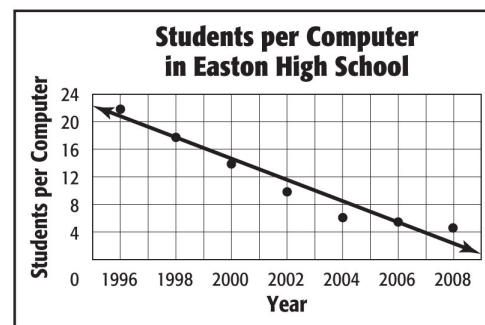
Exercises

Refer to the table for Exercises 1-3.

1. Draw a scatter plot.

2. Draw a line of fit for the data.

3. Write the slope-intercept form of an equation for the line of fit.

Movie Admission Prices

Source: U.S. Census Bureau

Years Since 1999	Admission (dollars)
0	$5.08
1	$5.39
2	$5.66
3	$5.81
4	$6.03