

**LESSON 3.1** Assignment

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Name \_\_\_\_\_ Date \_\_\_\_\_

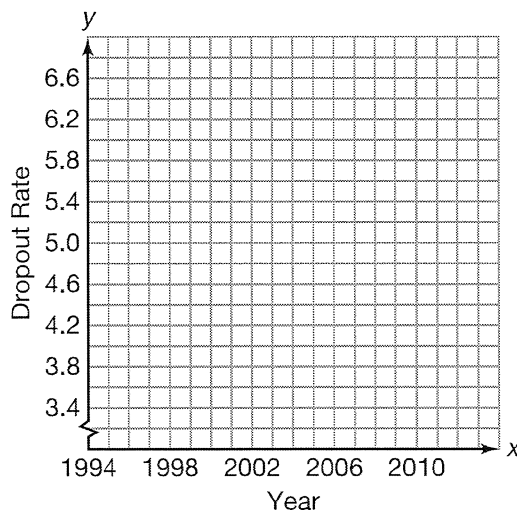
**Is It Getting Hot In Here?**  
**Modeling Data Using Linear Regression**

1. One of the jobs of the National Center for Education Statistics is to gather information about public high schools and their dropout rates. This includes anyone who leaves school without a high school diploma or an equivalent credential. The table below shows the average percent of high school dropouts from October 1994 through October 2006.

Year	High School Dropout Rate
1994	5.3
1995	5.7
1996	5.0
1997	4.6
1998	4.8
1999	5.0
2000	4.8
2001	5.0
2002	3.6
2003	4.0
2004	4.7
2005	3.8
2006	3.6



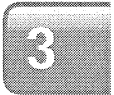
- a. Create a scatter plot of the high school dropout data. What information can you gather about the dropout rates from the scatter plot?



- b. Determine the linear regression equation for the high school dropout data. Is this line a good representation of the data? Explain your reasoning.
- c. Interpret the slope and  $y$ -intercept of the linear regression equation. What do these values represent in terms of the problem situation?

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- d. Determine the dropout rate for the year 2002. Is this the same as the dropout rate recorded in the table? If not, explain the difference.



- e. During what year will the dropout rate be 2.5 percent? Show your work and explain your reasoning.