

93. **Make a Decision** The table shows the net sales  $S$  (in billions of dollars) for Kohl's Corporation from 1992 to 2004. (*Data Source: Kohl's Illinois, Inc.*)

| Year | Net sales, $S$ |
|------|----------------|
| 1992 | 1.10           |
| 1993 | 1.31           |
| 1994 | 1.55           |
| 1995 | 1.93           |
| 1996 | 2.39           |
| 1997 | 3.06           |
| 1998 | 3.68           |
| 1999 | 4.56           |
| 2000 | 6.15           |
| 2001 | 7.49           |
| 2002 | 9.12           |
| 2003 | 10.28          |
| 2004 | 11.70          |

- Use the *regression* feature of a graphing utility to find a linear model, a quadratic model, and an exponential model for the data. Let  $t$  represent the year, with  $t = 2$  corresponding to 1992.
- Use a graphing utility to graph each model from part (a) with the original data.
- Which model do you think best fits the data? Explain your reasoning.
- For each model, find the  $r^2$ -value (the correlation coefficient) determined by the graphing utility. Use the results to choose which model best fits the data. How does this model compare with the model you chose from part (c)? (Recall that the correlation coefficient gives a measure of how well a model fits a data set. The closer the absolute value of the correlation coefficient is to 1, the better the fit.)
- Use the model that best represents the data to predict the net sales for Kohl's Corporation in 2010.