

Algebra 2

Data Updates

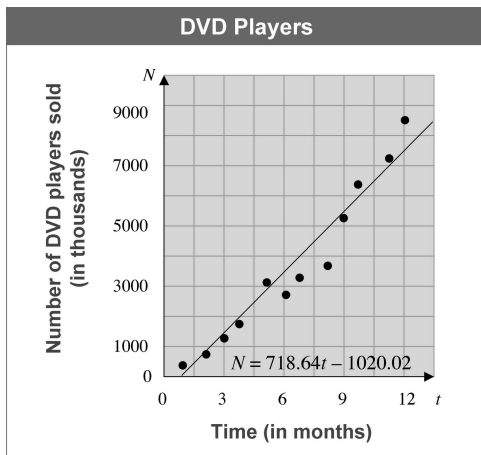
Chapter 5

Lesson 5.4, page 280, Exercise 114, Statistics Connection

The table shows the cumulative number N (in thousands) of DVD players sold in the United States from January, 2000 to time t (in months). Make a scatter plot of the data. Approximate the equation of the best-fitting line.

t	1	2	3	4	5	6	7	8	9	10	11	12
N	370	771	1184	1593	3046	2701	3238	3796	5092	6329	7195	8499

Answer: $N = 718.64t - 1020.02$



Lesson 5.6, page 297, Exercise 79, Telecommunications

For the years 1990-1998, the amount A (in billions of dollars) spent on long distance telephone calls in the United States can be modeled by $A = 0.347t^2 + 2.748t + 51.422$ where t is the number of years since 1990. In what year did the amount spent reach \$70 billion?

Answer: 1995

Lesson 5.7, page 305, Exercise 51, Medicine

In 2000, the average income I (in dollars) for a doctor aged x years could be modeled by:

$$I = -297x^2 + 31,000x - 523,000$$

For what ages did the average income for a doctor exceed \$280,000?

Answer: about 48 to 57 years old

Lesson 5.8, page 309, Exercise 6, Real Estate

The table shows the average sale price p of a house in Suffolk County, Massachusetts, for various years t since 1998. Use a system of equations to write a quadratic model for the data. Check your model by performing quadratic regression on a graphing calculator.

Years since 1988, t	0	2	4	6	8	10	12
Average sale price (thousands of dollars), p	165	154.5	124.5	115	128	165	225

Answer: $y = 2.18x^2 - 22.51x + 175.55$