53. ◆ **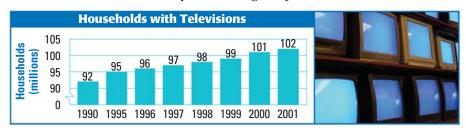TAKS REASONING** The bar graph shows the number of households with a television for various years during the period 1990–2001.

Households with Televisions

Year	Households (millions)
1990	92
1995	95
1996	96
1997	97
1998	98
1999	99
2000	101
2001	102

  a. Find a linear equation that models the number of households T (in millions) with a television as a function of the number of years since 1990. *Explain* how you found your model.

  b. During the period 1990–2001, the percent P (in decimal form) of television households that also have a VCR can be modeled by

  $$P = -0.0015t^2 + 0.032t + 0.069$$

  where t is the number of years since 1990. Write an equation that models the number of households V (in millions) with a VCR and a television as a function of the number of years since 1990.

  c. Use the equation from part (b) to predict the number of households that had a VCR and a television in 2002 and in 2005.

54. **CHALLENGE** For the period 1990–2001, the total United States energy consumption C (in quadrillion British Thermal Units, or BTU) and the percent P of the total energy that was consumed in the United States for industrial purposes can be modeled by

$$C = 1.5t + 84$$
$$P = -0.05t^2 + 0.25t + 38$$

where t is the number of years since 1990.

  a. Find the percent of total energy that was consumed in the United States for industrial purposes in 2000.

  b. Write an equation that gives the total energy (in quadrillion BTU) consumed in the United States for industrial purposes as a function of the number of years since 1990. To write the equation, you may need to rewrite one of the given equations.

TAKS **PRACTICE** at classzone.com

MIXED REVIEW FOR TAKS

55. ◆ **TAKS PRACTICE** A class consists of 12 girls and 17 boys. Girls had an average of x points on a test, while boys had an average of y points. Which expression gives the average test score for the entire class? *TAKS Obj. 2*

  (A) $\dfrac{x+y}{2}$ **(B)** $\dfrac{12x + 17y}{29}$ **(C)** $\dfrac{x+y}{29}$ **(D)** $29\left(\dfrac{x}{12} + \dfrac{y}{17}\right)$

56. ◆ **TAKS PRACTICE** Mrs. Smith invested some money that will double in value every 14 years. If she invested $4,000 on the first of the year 2005, how much will the investment be worth on the first of the year 2061? *TAKS Obj. 10*

  (F) $24,000   **(G)** $32,000   **(H)** $64,000   **(J)** $128,000