

45. **TAKS REASONING** The revenue R (in millions of dollars) from sales of printed music in the United States during the period 1988–2002 can be modeled by

$$R = \frac{300 + 20x}{1 + 0.008x}$$

where x is the number of years since 1988.

- Model and Calculate** Rewrite the model so that it has only whole number coefficients. Then simplify the model and approximate the revenue from sales of printed music in 2002.
 - Graph** Graph the model. *Describe* how revenue changed during the period.
 - Decide** Can you use the model to conclude that the number of copies of printed music sold increased over time? *Explain*.
46. **CHALLENGE** The average annual expenses E (in dollars) of a middle income family and the average annual amount T (in dollars) spent on telephone service during the period 1992–2001 can be modeled by

$$E = 1240x + 24,800 \quad \text{and} \quad T = 31x + 620$$

where x is the number of years since 1992. Write and simplify a model to show that the average annual amount spent on telephone service was 2.5% of the average annual expenses during the period.



TAKS PRACTICE at classzone.com

MIXED REVIEW FOR TAKS

REVIEW

Lesson 8.2;
TAKS Workbook

47. **TAKS PRACTICE** The area of a rectangle is $42s^6t^4$ square units. If the width of the rectangle is $14s^2t$ units, how many units long is the rectangle? ($s \neq 0$ and $t \neq 0$) **TAKS Obj. 5**

- (A) $3s^3t^2$ (B) $3s^3t^3$ (C) $3s^4t^2$ (D) $3s^4t^3$

REVIEW

Lesson 11.4;
TAKS Workbook

48. **TAKS PRACTICE** A school has a rectangular courtyard that is 32 feet by 24 feet. The school builds a walkway along a diagonal of the rectangle. To the nearest foot, how long is the walkway? **TAKS Obj. 8**

- (F) 28 ft (G) 35 ft (H) 40 ft (J) 56 ft

QUIZ for Lessons 12.3–12.4

Divide. (p. 784)

1. $(y^2 - 5y + 6) \div (y - 3)$

2. $(x^2 + 3x - 28) \div (x - 6)$

Graph the function. (p. 784)

3. $y = \frac{x + 3}{x - 4}$

4. $y = \frac{2x - 1}{x + 3}$

Simplify the rational expression, if possible. State the excluded values. (p. 794)

5. $\frac{w + 10}{w^2 - 100}$

6. $\frac{250x^3}{14x}$

7. $\frac{y + 7}{y - 7}$

8. $\frac{z^2 - 4z - 45}{3z^2 + 25z + 50}$