38. CHALLENGE Let x be the number of years since 1998, let $g(x)$ be the average monthly bill (in dollars) for mobile phone users in the United States, and let $h(x)$ be the average number of minutes used by U.S. mobile phone users. Then $g(x)$ and $h(x)$ are as given below.

$$g(x) = -0.27x^3 + 1.40x^2 + 1.05x + 39.4$$

$$h(x) = -8.25x^3 + 53.1x^2 - 7.82x + 138$$

a. Write a rational function $f(x)$ that gives the average price per minute x years after 1998.

b. Find the average price per minute in 1998.

c. In what year did the average price per minute fall to 11 cents?

MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

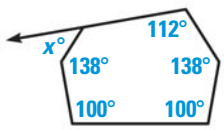
REVIEW Lesson 2.3; TAKS Workbook

39. TAKS PRACTICE What are the coordinates of the y-intercept of the line $-2x - \frac{1}{3}y = 12$? *TAKS Obj. 3*

Ⓐ $(-6, 0)$ Ⓑ $(0, -36)$ Ⓒ $(0, 4)$ Ⓓ $(12, 0)$

REVIEW TAKS Preparation p. 408; TAKS Workbook

40. TAKS PRACTICE What is the value of x? *TAKS Obj. 6*



Ⓕ 38 Ⓖ 48

Ⓗ 58 Ⓙ 68

QUIZ *for Lessons 8.4–8.6*

Perform the indicated operation and simplify. *(p. 573)*

1. $\frac{x^2 - 2x - 24}{x^2 + 3x - 10} \cdot \frac{3x^2 - 6x}{x^3 + 4x^2}$

2. $\frac{x^2 - 10x + 16}{x^2 - 1} \cdot (x - 1)$

3. $\frac{x^2 + 9x + 20}{x^2 - 11x + 28} \div \frac{x^2 + 8x + 15}{x^2 - 3x - 4}$

4. $\frac{x^2 + 12x + 36}{x^2 - 8x + 12} \div (x^2 - 36)$

Perform the indicated operation and simplify. *(p. 582)*

5. $\frac{1}{x + 4} + \frac{1}{x - 4}$

6. $\frac{4x + 3}{x^2 - 16} + \frac{2}{x - 4}$

7. $\frac{4}{x + 5} - \frac{6x - 1}{x^2 + 10x + 25}$

Solve the equation. Check for extraneous solutions. *(p. 589)*

8. $\frac{x - 4}{x - 1} = \frac{10}{x + 7}$

9. $\frac{x - 4}{x - 2} - \frac{2x - 1}{x - 2} = 2$

10. $\frac{3x + 6}{x^2 - 4} = \frac{x + 1}{x - 2}$

11. $\frac{5}{x} + \frac{x + 1}{x + 2} = \frac{2x + 9}{x + 2}$

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

13. $\frac{x - 1}{x} + \frac{2x - 1}{x + 3} = \frac{x + 6}{x + 3}$

14. BATTING AVERAGE So far this baseball season, you have gotten a hit 12 times out of 60 at-bats. Solve the equation $0.360 = \frac{12 + x}{60 + x}$ to find the number of consecutive hits you have to get to raise your batting average to 0.360. *(p. 589)*