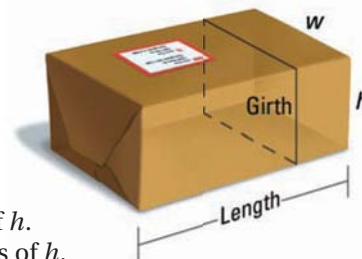
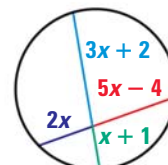


67. **★ EXTENDED RESPONSE** A U.S. Postal Service guideline states that for a rectangular package like the one shown, the sum of the length and the girth cannot exceed 108 inches. Suppose that for one such package, the length is 36 inches and the girth is as large as possible.



- What is the girth of the package?
 - Write an expression for the package's width w in terms of h . Write an equation giving the package's volume V in terms of h .
 - What height and width maximize the volume of the package? What is the maximum volume? *Explain* how you found it.
68. **CHALLENGE** Recall from geometry the theorem about the products of the lengths of segments of two chords that intersect in the interior of a circle. Use this theorem to find the value of x in the diagram.



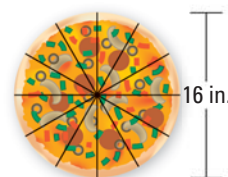
MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW

Skills Review
Handbook p. 992;
TAKS Workbook

69. **★ TAKS PRACTICE** A pizza is divided into 12 equal slices as shown. The diameter of the pizza is 16 inches. What is the approximate area of one slice of pizza? **TAKS Obj. 8**



- (A) 15.47 in.² (B) 16.76 in.²
(C) 21.21 in.² (D) 67.02 in.²

REVIEW

TAKS Preparation
p. 146;
TAKS Workbook

70. **★ TAKS PRACTICE** While shopping at Store A, Sam finds a television on sale for \$210. His friend tells him that the same television at Store B is on sale for \$161. About what percent of the cost of the television at Store A does Sam save by buying the television at Store B? **TAKS Obj. 9**

- (F) 20% (G) 23% (H) 30% (J) 77%

QUIZ for Lessons 4.1–4.4

Graph the function. Label the vertex and axis of symmetry. (p. 236)

1. $y = x^2 - 6x + 14$

2. $y = 2x^2 + 8x + 15$

3. $f(x) = -3x^2 + 6x - 5$

Write the quadratic function in standard form. (p. 245)

4. $y = (x - 4)(x - 8)$

5. $g(x) = -2(x + 3)(x - 7)$

6. $y = 5(x + 6)^2 - 2$

Solve the equation.

7. $x^2 + 9x + 20 = 0$ (p. 252)

8. $n^2 - 11n + 24 = 0$ (p. 252)

9. $z^2 - 3z - 40 = 0$ (p. 252)

10. $5s^2 - 14s - 3 = 0$ (p. 259)

11. $7a^2 - 30a + 8 = 0$ (p. 259)

12. $4x^2 + 20x + 25 = 0$ (p. 259)

13. **DVD PLAYERS** A store sells about 50 of a new model of DVD player per month at a price of \$140 each. For each \$10 decrease in price, about 5 more DVD players per month are sold. How much should the store charge in order to maximize monthly revenue? What is the maximum monthly revenue? (p. 259)

