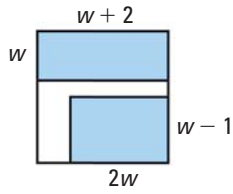
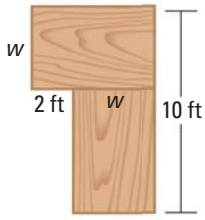
56. **TAKS REASONING** Two rectangular rooms in a building's floor plan have different dimensions but the same area. The dimensions (in meters) are shown. What is the value of w?



Ⓐ 3 m Ⓑ 4 m Ⓒ 6 m Ⓓ 8 m

57. **TABLETOP AREAS** A display in your school library sits on top of two rectangular tables arranged in an L shape, as shown. The tabletops have the same area.



a. Write an equation that relates the areas of the tabletops.

b. Find the value of w.

c. What is the combined area of the tabletops?

58. **MULTIPLE REPRESENTATIONS** An arch frames the entrance to a garden. The shape of the arch is modeled by the graph of the equation $y = -2x^2 + 8x$ where x and y are measured in feet. On a coordinate plane, the ground is represented by the x-axis.

a. **Making a Table** Make a table of values that shows the height of the arch for $x = 0$, 1, 2, 3, and 4 feet.

b. **Drawing a Graph** Plot the ordered pairs in the table as points in a coordinate plane. Connect the points with a smooth curve that represents the arch.

c. **Interpreting a Graph** How wide is the base of the arch?

59. **CHALLENGE** The shape of an arched doorway is modeled by the graph of the function $y = -0.5x(x - 8)$ where x and y are measured in feet. On a coordinate plane, the floor is represented by the x-axis.

a. How wide is the doorway at its base? *Justify* your answer using the zeros of the function.

b. The doorway's highest point occurs above the center of its base. How high is the highest point of the arched doorway? *Explain* how you found your answer.

MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

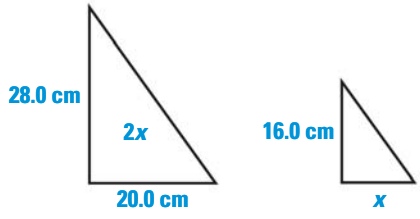
REVIEW Lesson 8.1; TAKS Workbook

60. **TAKS PRACTICE** If $y = 3x^3$, which of the following is equivalent to x^9? *TAKS Obj. 5*

Ⓐ y^3 Ⓑ $\frac{y^3}{3}$ Ⓒ $\frac{y^3}{27}$ Ⓓ $\frac{y^6}{3}$

REVIEW Extension 3.6; TAKS Workbook

61. **TAKS PRACTICE** Cam has two similar triangular pieces of paper, as shown. Using the dimensions given, find the approximate length of the side labeled x. *TAKS Obj. 8*



Ⓕ 8.0 cm Ⓖ 11.4 cm

Ⓗ 13.2 cm Ⓙ 22.4 cm