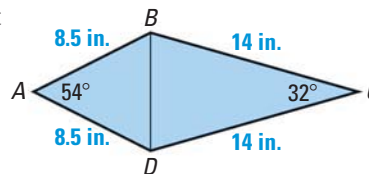


46. **MULTI-STEP PROBLEM** Quadrilateral $ABCD$ shown at the right is a kite.



- Find the area of $\triangle ABD$.
 - Find the area of $\triangle BCD$.
 - What is the area of the kite?
47. **TAKS REASONING** A building is constructed on top of a cliff that is 300 meters high. A person standing on level ground below the cliff observes that the angle of elevation to the top of the building is 72° , and the angle of elevation to the top of the cliff is 63° .
- How far away is the person from the base of the cliff?
 - Describe* two different methods you can use to find the height of the building. Use one of these methods to find the building's height.
48. **TAKS REASONING** Use a graphing calculator to explore how the included angle in the formulas on page 885 affects a triangle's area.
- Model** Choose lengths for two sides of the triangle. Let x represent the measure (in degrees) of the included angle. Write an equation that gives the triangle's area y as a function of x .
 - Graphing Calculator** Enter the equation from part (a) into a graphing calculator. Use the *table* feature to examine values of the area for $0^\circ < x^\circ < 180^\circ$. Does the area always increase as x increases? *Explain*.
 - Interpret** What value of x maximizes the triangle's area? What is the maximum area, and how is it related to the side lengths you chose in part (a)?
49. **CHALLENGE** The distance between Mercury and the sun is approximately 36 million miles. The distance between Earth and the sun is approximately 93 million miles. If on a certain day the angle (measured from Earth) between the sun and Mercury is 22° , what are the possible distances between Mercury and Earth?



MIXED REVIEW FOR TAKS

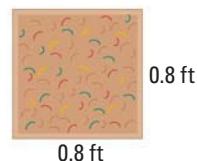
TAKS PRACTICE at classzone.com

REVIEW

Skills Review
Handbook p. 991;
TAKS Workbook

50. **TAKS PRACTICE** Amy uses 100 of the tiles shown to tile a square room. What is the perimeter of the room? **TAKS Obj. 10**

- (A) 24 ft (B) 32 ft
(C) 36 ft (D) 80 ft



REVIEW

Skills Review
Handbook
p. 1008;
TAKS Workbook

51. **TAKS PRACTICE** The ages of the first 20 people entering an amusement park are 12, 16, 35, 24, 40, 48, 15, 18, 20, 50, 38, 14, 11, 28, 18, 19, 26, 15, 16, and 21. What is an acceptable set of intervals to use when making a histogram of the ages? **TAKS Obj. 9**

- (F) 10–20, 21–40, and 41–50
(G) 10–15, 16–20, 21–30, and 31–50
(H) 11–20, 21–30, 31–40, and 41–50
(J) 15–25, 26–35, 36–45, and 46–55

