EXAMPLE 5 on p. 885 for Exs. 29–41

FINDING AREA **Find the area of $\triangle ABC$ with the given side lengths and included angle.**

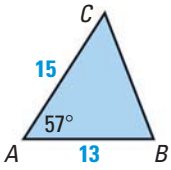
29. $B = 124°, a = 9, c = 11$ **30.** $A = 68°, b = 13, c = 7$ **31.** $A = 34°, b = 29, c = 36$

32. $C = 79°, a = 25, b = 17$ **33.** $B = 57°, a = 9, c = 5$ **34.** $C = 96°, a = 7, b = 15$

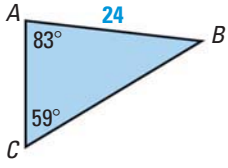
35. $A = 130°, b = 23, c = 20$ **36.** $B = 60°, a = 19, c = 14$ **37.** $C = 29°, a = 38, b = 31$

FINDING AREA **Find the area of $\triangle ABC$.**

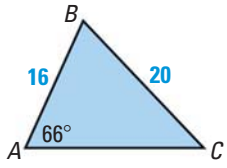
38.



39.



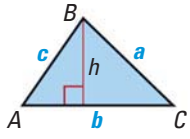
40.



41. **TAKS REASONING** What is the area of $\triangle ABC$ if $B = 52°$, $a = 29$, and $c = 24$?

(A) 274 units^2 (B) 348 units^2 (C) 548 units^2 (D) 696 units^2

42. **CHALLENGE** Using the triangle shown at the right as a reference, derive the formulas for the area of a triangle given on page 885. Then use the area formulas to derive the law of sines.



PROBLEM SOLVING

EXAMPLE 1 on p. 882 for Ex. 43

43. **LIFEGUARDS** Two lifeguards are watching a windsurfer. Use the information in the diagram to find the distance from each lifeguard to the windsurfer.

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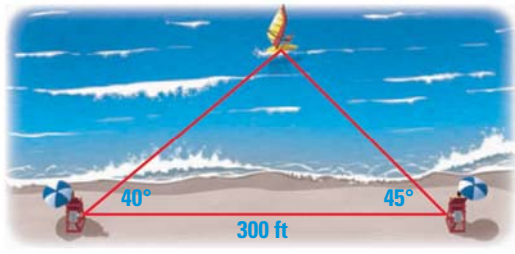

EXAMPLE 2 on p. 883 for Ex. 44

44. **NEW YORK CITY** You are on the observation deck of the Empire State Building looking at the Chrysler Building. When you turn 145° clockwise, you see the Statue of Liberty. You know that the Chrysler Building and the Empire State Building are about 0.6 mile apart and that the Chrysler Building and the Statue of Liberty are about 5.7 miles apart. Estimate the distance between the Empire State Building and the Statue of Liberty.

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EXAMPLE 5 on p. 885 for Exs. 45–46

45. **MULTIPLE REPRESENTATIONS** You are fertilizing a triangular garden. One side of the garden is 62 feet long and another side is 54 feet long. The angle opposite the 62 foot side is 58°.

a. Drawing a Diagram Draw a diagram to represent this situation.

b. Solving a Triangle Use the law of sines to solve the triangle you drew in part (a).

c. Applying a Formula One bag of fertilizer covers an area of 200 square feet. How many bags of fertilizer will you need to cover the entire garden?