**23.** Determine the values of $b$ that will produce the given number of triangles if $a = 10$ and $B = 42°$.

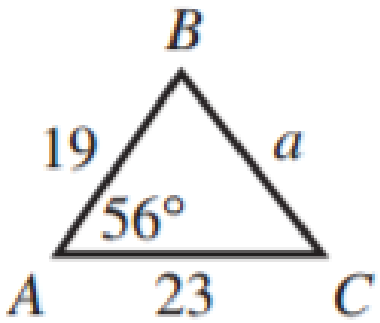
**(a)** two triangles **(b)** one triangle **(c)** zero triangles

**24.** Determine the values of $c$ that will produce the given number of triangles if $b = 12$ and $C = 53°$.

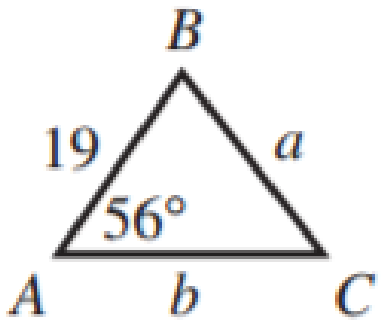
**(a)** two triangles **(b)** one triangle **(c)** zero triangles

In Exercises 25 and 26, decide whether the triangle can be solved using the Law of Sines. If so, solve it. If not, explain why not.

**25.**

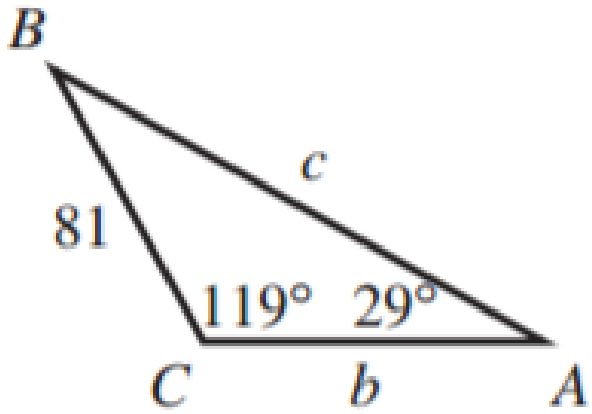



(a)

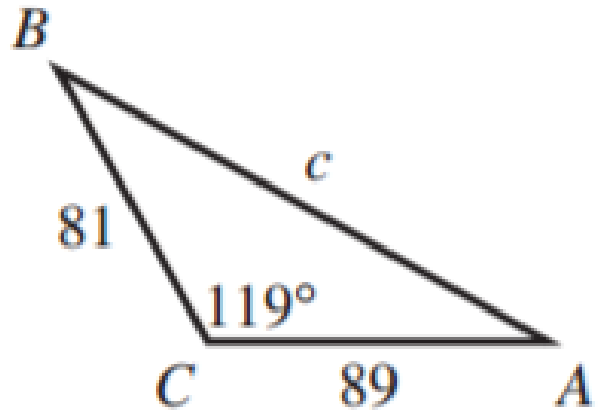



(b)

**26.**




(a)




(b)

In Exercises 13–18, state whether the given measurements determine zero, one, or two triangles.

**13.** $A = 36°, \quad a = 2, \quad b = 7$

**14.** $B = 82°, \quad b = 17, \quad c = 15$

**15.** $C = 36°, \quad a = 17, \quad c = 16$

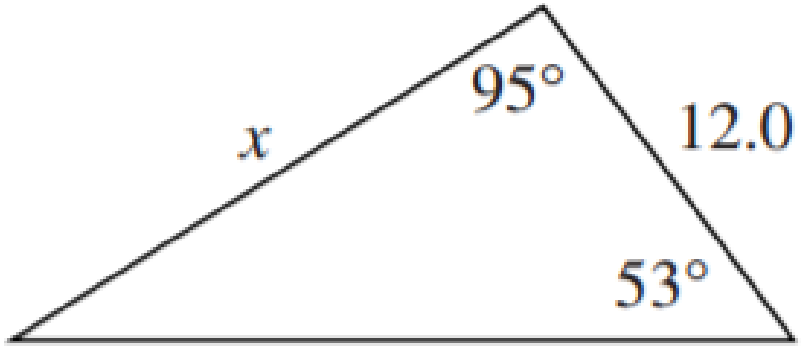
**16.** $A = 73°, \quad a = 24, \quad b = 28$

**17.** $C = 30°, \quad a = 18, \quad c = 9$

**18.** $B = 88°, \quad b = 14, \quad c = 62$

**38. Weather Forecasting** Two meteorologists are 25 mi apart located on an east-west road. The meteorologist at point $A$ sights a tornado 38° east of north. The meteorologist at point $B$ sights the same tornado at 53° west of north. Find the distance from each meteorologist to the tornado. Also find the distance between the tornado and the road.

**49.** The length $x$ in the triangle shown at the right is




**51.** The shortest side of a triangle with angles $50°$, $60°$, and $70°$ has length 9.0. What is the length of the longest side?

**52. Multiple Choice** How many noncongruent triangles $ABC$ can be formed if $AB = 5$, $A = 60°$, and $BC = 8$?

**(A)** none **(B)** one **(C)** two

**(D)** three **(E)** infinitely many

**56.** Solve this triangle assuming that $\angle B$ is obtuse. (*Hint*: Draw a perpendicular from $A$ to the line through $B$ and $C$.)