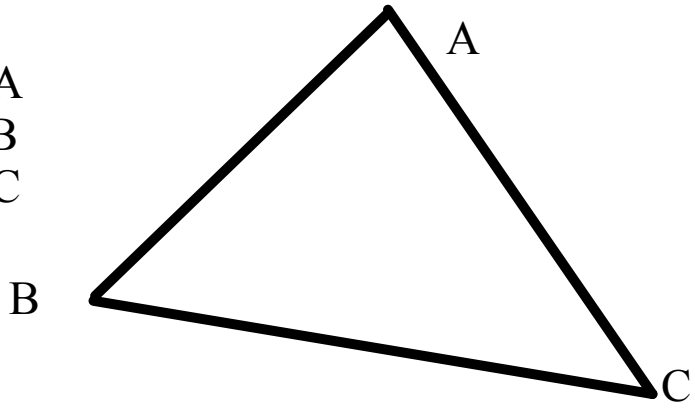
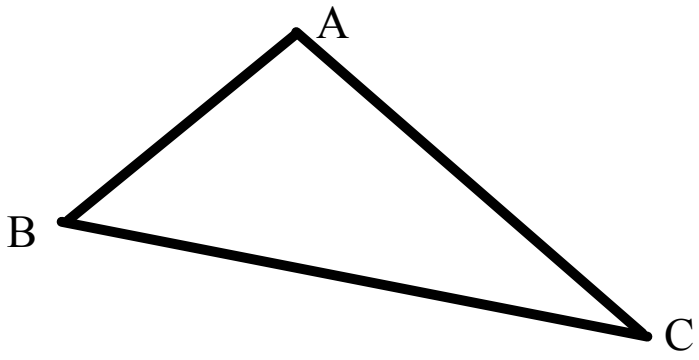
area = 1/2bcsinA
area = 1/2acsinB
area = 1/2absinC



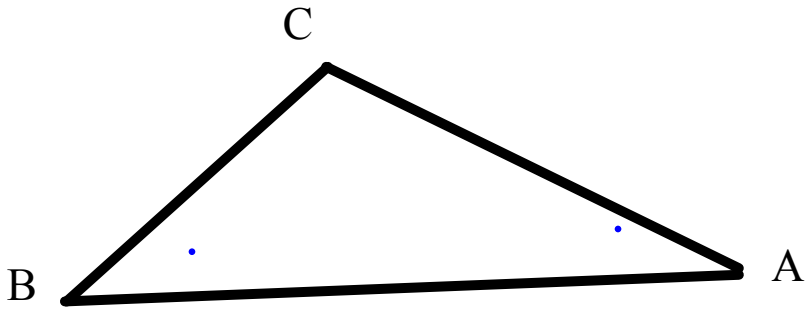
Law of Sines



$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

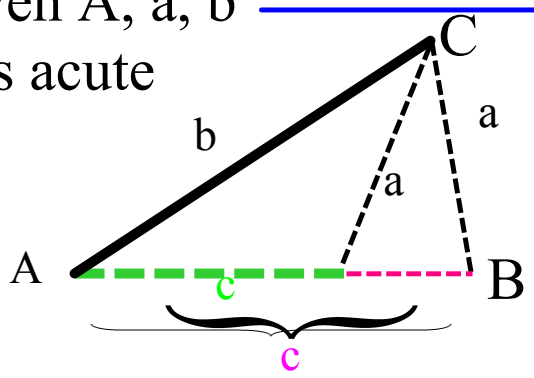
Solve ABC given AAS(2 angles and opposite side)

B = 53, C = 100, b = 9



Given A, a, b
A is acute

***A*, *a*, and *b* do not change**



1. Solve the triangle.

If you get a valid solution, you must check for another triangle.*(when A is acute)*

2. Try again.

Use the supplement of the first angle you calculated (∠B) and try to solve for another triangle.

You may get no solution on the second try.

Solve the triangle given:

$$\angle A = 50,\ \ a = 5,\ b = 9$$

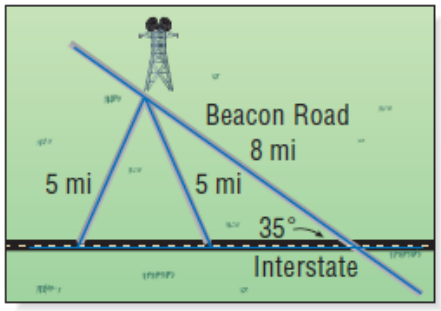
Solve the triangle given:

$$\angle A = 25,\ a = 5, b = 10$$

Solve the triangle given:

I $A = 25, a = 13, b = 12$

38. **RADIO** A radio station providing local tourist information has its transmitter on Beacon Road, 8 miles from where it intersects with the interstate highway. If the radio station has a range of 5 miles, between what two distances from the intersection can cars on the interstate tune in to hear this information?



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39. **FORESTRY** Two forest rangers, 12 miles from each other on a straight service road, both sight an illegal bonfire away from the road. Using their radios to communicate with each other, they determine that the fire is between them. The first ranger's line of sight to the fire makes an angle of 38° with the road, and the second ranger's line of sight to the fire makes a 63° angle with the road. How far is the fire from each ranger?

40. **BALLOONING** As a hot-air balloon crosses over a straight portion of interstate highway, its pilot eyes two consecutive mileposts on the same side of the balloon. When viewing the mileposts the angles of depression are 64° and 7°. How high is the balloon to the nearest foot?