

9-4 HW: Law of Sines

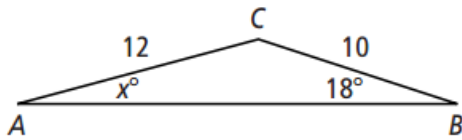
Practice

Indicate whether the given measurements result in no triangles, one triangle, or two triangles. Solve the resulting triangle. Round your answer to the nearest hundredth.

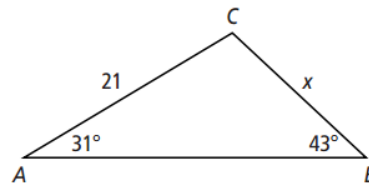
- 1) $B = 22^\circ, b = 16.8, a = 22.42$ 2) $B = 96^\circ, b = 3, a = 24$
 3) $B = 49^\circ, b = 9, a = 7$ 4) $B = 64^\circ, A = 64^\circ, a = 8$

Use the Law of Sines. Find the measure of x to the nearest tenth.

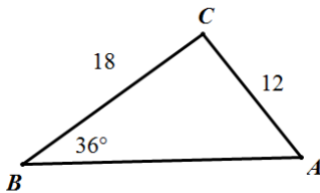
5)



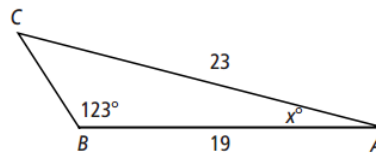
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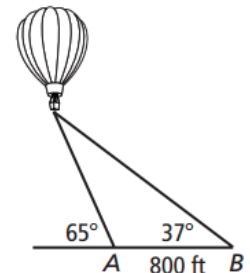
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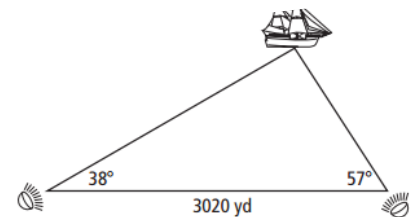
8)



- 9) A hot-air balloon is observed from two points, A and B, on the ground 800 ft apart as shown in the diagram. The angle of elevation of the balloon is 65° from point A and 37° from point B. Find the distance from point A to the balloon.



- 10) Two searchlights on the shore of a lake are located 3020 yd apart as shown in the diagram. A ship in distress is spotted from each searchlight. The beam from the first searchlight makes an angle of 38° with the baseline. The beam from the second light makes an angle of 57° with the baseline. Find the ship's distance from each searchlight.



In $\triangle ABC$, $m\angle A = 25^\circ$ and $m\angle B = 50^\circ$. Find each value to the nearest tenth.

- 11) Find AC for $BC = 6.2$ in. 12) Find BC for $AC = 14.9$ cm.

Verify the following identities.

13) $\cot x + 1 = \csc x (\cos x + \sin x)$

14) $\frac{\sin x}{\cos x + 1} + \frac{\cos x - 1}{\sin x} = 0$