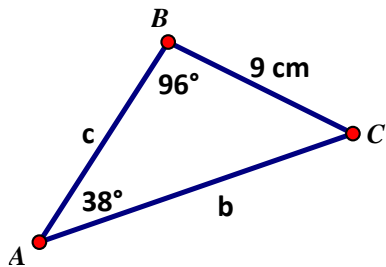


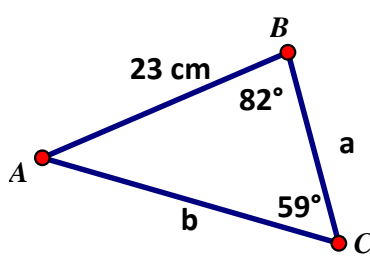
1. Solve for all the sides and angles of  $\triangle ABC$  using the Law of Sines.

a)



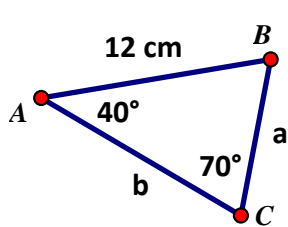
$m\angle A = 38^\circ$ $m\angle B = 96^\circ$ $m\angle C = \underline{\hspace{2cm}}$ $a = 9 \text{ cm}$ $b = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$
--

b)



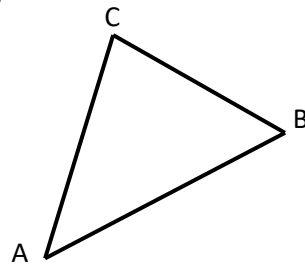
$m\angle A = \underline{\hspace{2cm}}$ $m\angle B = 82^\circ$ $m\angle C = 59^\circ$ $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = 23 \text{ cm}$
---

c)



$m\angle A = 40^\circ$ $m\angle B = \underline{\hspace{2cm}}$ $m\angle C = 70^\circ$ $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = 12 \text{ cm}$
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d)



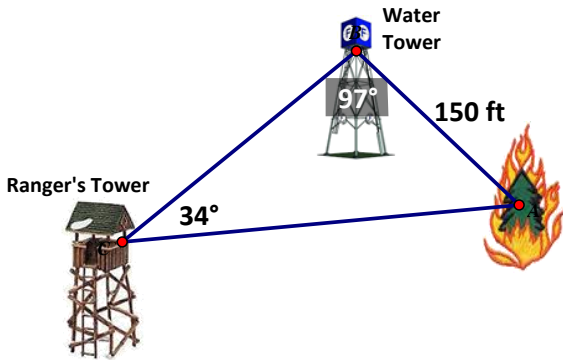
$m\angle A = 42^\circ$ $m\angle B = \underline{\hspace{2cm}}$ $m\angle C = \underline{\hspace{2cm}}$ $a = 7 \text{ cm}$ $b = 10 \text{ cm}$ $c = \underline{\hspace{2cm}}$
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2. Draw a diagram, and then solve for all the sides and angles of  $\triangle ABC$  given the information below.

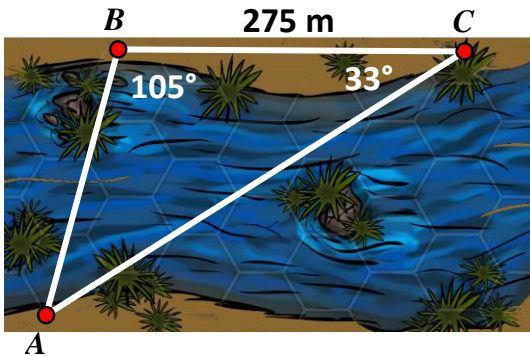
$m\angle A = 13^\circ$                        $a = 45 \text{ m}$   
 $m\angle B = \underline{\hspace{2cm}}$                        $b = 80 \text{ m}$   
 $m\angle C = \underline{\hspace{2cm}}$                        $c = \underline{\hspace{2cm}} \text{ m}$

3. Solve the following problems.

a) The tallest tree in the forest is 150 feet from the water tower. Unfortunately in a lightning storm the tallest tree was struck and caught on fire. The ranger needs to go from his tower to the water tower to get the water to put out the fire. How far is it from the Ranger's Tower to the Water Tower? (nearest foot)



b) A surveyor is able to gather some information about the terrain around a river. How far is it across the river from A to B? (to the nearest metre)



c) A surveyor in a boat on the river at point A was able to gather some information about the terrain around a river. How far is it across the river (from B to C to the nearest foot), if the angle from the surveyor to the two points on the shore ( $\angle BAC$ ) was  $13^\circ$  and the angle from the shore at point B to the boat and the other point on the shore ( $\angle ABC$ ) is  $97^\circ$  and the estimated distance from A to B is 75 ft?

