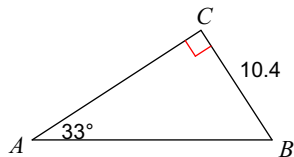


9.REV.2 ~ Lessons 9.2 - 9.6

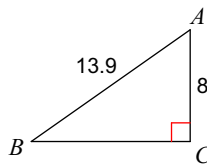
Past due on _____ Period _____

Solve the right triangle. Round angle measures to the nearest tenth of a degree; round side lengths to the nearest hundredth. Please circle your solutions.

1)

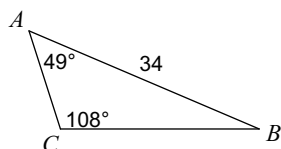
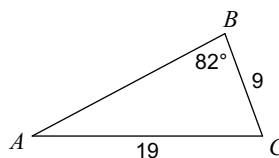


2)



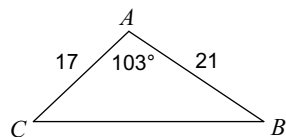
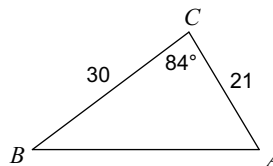
Use the Law of Sines to solve for the indicated side or angle. Round angle measures to the nearest tenth of a degree; round side lengths to the nearest hundredth.

3) Find BC

4) Find $m\angle A$ 

Use the Law of Cosines to solve for the indicated side or angle. Round angle measures to the nearest tenth of a degree; round side lengths to the nearest hundredth.

5) Find BC

6) Find $m\angle A$ 

For each problem below, draw a diagram that represents the scenario and then write a trigonometric equation; finally, solve. Round your answers to the nearest hundredth.

- 7) A surveyor is 3 miles from a mountain. The angle of elevation from the ground to the top of the mountain is 15° . What is the height of the mountain?

- 8) The angle of elevation from a ship to a 135-foot-tall lighthouse is 2° . How far is the ship from the lighthouse?

- 9) Museums use metal rods to position the bones of dinosaurs. If an angled rod needs to be placed 1.3 meters away from a bone, with an angle of elevation from the ground of 51° , what must the length of the rod be?

- 10) A factory conveyor has an angle of depression of 18° and drops 10 feet. How long is the conveyor?

- 11) A zip wire from a tree to the ground has an angle of depression of 18° . If the zip wire ends 250 feet from the base of the tree, how far up the tree does the zip wire start?

- 12) A bicycle race organizer needs to put up barriers along a hill. The hill is 300 feet tall and from the top makes an angle of depression of 26° . How long does the barrier need to be?

- 13) An airplane ramp is 58 feet long and reaches the cockpit entrance 19 feet above the ground. Calculate the measure of the angle formed by the ramp and the ground.

- 14) You park your boat at the end of a 20-foot-dock. You tie the boat to the opposite end of the dock with a 35-foot rope. The boat drifts downstream until the rope is extended as far as it will go. What is the angle formed by the rope and the dock?

- 15) A moving truck is equipped with a ramp that extends from the back of the truck to the ground. When the ramp is fully extended, it touches the ground 12 feet from the back of the truck. The height of the ramp is 2.5 feet. Calculate the measure of the angle formed by the ramp and the ground.