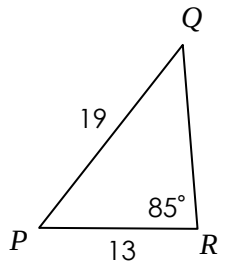
Name: _____ **Unit 7:** Right Triangles & Trigonometry

Date: _____ **Per:** _____ **Homework 9:** Law of Sines & Law of Cosines; + Applications

**** This is a 2-page document! ****

Directions: Use the Law of Sines and/or the Law of Cosines to solve each triangle. Round to the nearest tenth when necessary.

1.

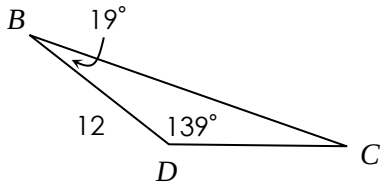


$QR =$

$m\angle P =$

$m\angle Q =$

2.

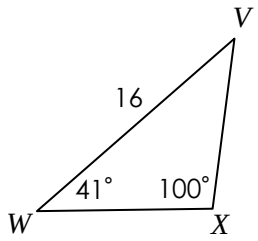


$BC =$

$DC =$

$m\angle C =$

3.

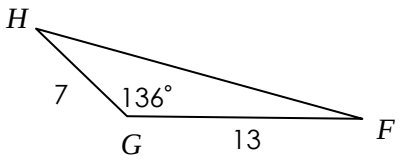


$VX =$

$WX =$

$m\angle V =$

4.

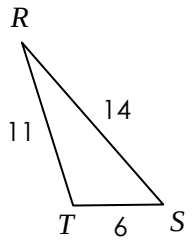


$HF =$

$m\angle H =$

$m\angle F =$

5.



$m\angle R =$

$m\angle S =$

$m\angle T =$

6. A helicopter spots two landing pads in opposite directions below. The angle of depression to Pad A and Pad B is 46° and 16° respectively. If the straight-line distance from the helicopter to Pad A is 5 miles, find the distance between the landing pads.

7. Two cruise ships leave the same port with a 35° angle between their path. Cruise A is traveling at 18 miles per hour and Cruise B is traveling at 15 miles per hour. If they travel in a straight path, find the distance between the cruise ships after 2 hours.

8. A pole is supported by two wires, one on each side, going in opposite directions. The wires are 14 feet and 17 feet long. If the wires are to be secured to the ground 22 feet from each other, what angle must the 14-foot long wire make with the ground?

9. A 40-foot tall monument sits on top of a hill. Pete is standing at a point on the hill and observes the top of the monument at an angle of elevation of 50° and the bottom of the monument at an angle of elevation of 22°. Find the distance Pete must climb to reach the monument.