

Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:



Right Triangle Trigonometry

▶ Practice Problems

Use trigonometry to solve the following problems. Round your answer to the nearest hundredths decimal place. Draw a diagram to help you!

(1)

A 200 foot long zip-line cable is attached to the top of a tree and extends to an anchor on the ground. The cable makes an angle of 61° with the ground. Calculate how far away the foot of the cable is to the base of the tree.



(2)

A skateboard ramp makes a 32° angle with the ground and has a vertical height of 12 feet. Find the length of the ramp.



(3)

Sean is operating an RC drone hovering above a garbage pile that is 50 yards away from him. If the angle of elevation between the drone and the ground is 43° , what is the altitude of the drone?



< ADVANCED PROBLEMS >

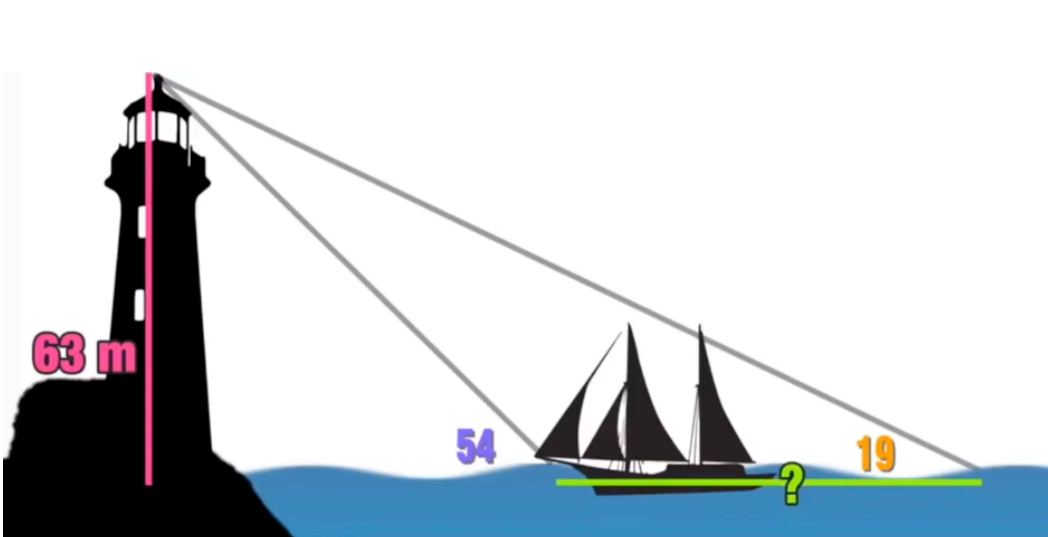
(4)

An anti-aircraft tank targets an enemy helicopter flying at an altitude of 1,600 feet. If the ground distance between the tank and the helicopter is 950 feet, what angle of elevation must the cannon be raised to in order to hit the target?



(5)

A boat is approaching a lighthouse that is 63 meters tall. The captain measures the angle of elevation to the top of the lighthouse to be 19° . Ten minutes later, she measures the angle of elevation to be 54° . How far has she travelled in those ten minutes?



ANSWER KEY

- 1.) 97 ft**
- 2.) 22.6 ft**
- 3.) 46.6 yds**
- 4.) 59.3°**
- 5.) 137.2 m**