

Name \_\_\_\_\_ Date \_\_\_\_\_

## RIGHT TRIANGLE TRIGONOMETRY

Draw pictures and make all answers accurate to the nearest tenth!

A submersible traveling at a depth of 250 feet dives at an angle of  $15^\circ$  with respect to a line parallel to the water's surface. It travels a horizontal distance of 1500 feet during the dive. What is the depth of the submersible after the dive?

A fire department's longest ladder is 110 feet long, and the safety regulation states that they can use it for rescues up to 100 feet off the ground. What is the maximum safe angle of elevation for the rescue ladder?

You are 200 yards from a river. Rather than walking directly to the river, you walk 400 yards along a straight path to the river's edge. Find the acute angle between path and the river's edge.

A 12 meter flagpole casts a 9 meter shadow. Find the angle of elevation of the sun.

A damsel is in distress and is being held captive in a tower. Her knight in shining armor is on the ground below with a ladder. When the knight stands 15 feet from the base of the tower and looks up at his precious damsel, the angle of elevation to her window is 60 degrees. How long does the ladder have to be?