Name: _____

Triangle Applications of Trigonometry Review

Use: SOH-CAH-TOA, Law of Sines and Law of Cosines to solve each of the following. Round to the nearest tenth unless otherwise indicated.

1) A 12 meter flagpole casts a 9 meter shadow. Determine the angle of elevation of the sun.

2) A triangular playground has sides of length 475 feet, 595 feet and 401 feet. What is the measure of the largest angle between the sides?

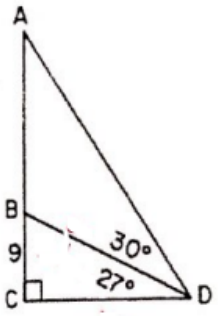
3) Max Power is walking to his office building which he knows is 150 feet high. The angle to the top of the building from his current location is 6°. How much further does he have to walk?

4) Kanye and Kim are standing at the seashore 10 miles apart. The coastline is a straight line between them. Both can see the same ship in the water. The angle between the coastline and the line between the ship and Kanye is 35°. The angle between the coastline and the line between the ship and Kim is 45°. How far are Kanye and Kim from the ship?

5) Suppose you're flying a kite and it gets caught at the top of a tree. You've let out 100 feet of string for the kite and the angle the string makes with the ground is 75°. Due to your inquisitive nature, you wonder, "How tall is that tree?" Using your vast pre-calculus knowledge, determine the answer to your questions.

6) An isosceles triangle has legs of length 12 inches and base angles that measure 32°. Find the length of the missing side.

7) Using the accompanying diagram, determine the length of BD.

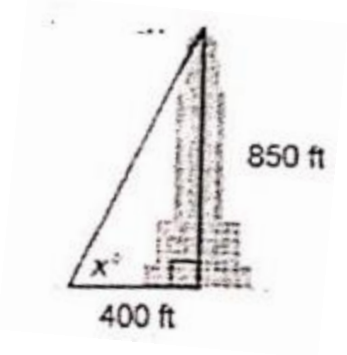



8) A person at point A looks due east and sees a UFO with an angle of elevation of 40°. At the same instant, another person, 1 mile dues west of point A, looks due east and sights the same UFO with an angle of elevation of 25°. Determine the distance between point A and the UFO. How far is the UFO above the ground?

9) An airplane fleis directly overhead 2 people at the same time and they measure the angle of elevation. The airplane is between the two people. One angle is 32° and the other measure 46°. If the two people are 225 feet apart, how high is the plane?

10) From the top of a tower, the angle of depresssion to a stake on the ground is 60°. The top of the tower is 80 feet above the ground. How far is the stake from the foot of the tower?

11) Find the angle of elevation if you are standing 400 feet away and the building is 850 feet tall?




12) You are a block away from a skyscraper that is 750 feet tall. Your friend is between the skyscraper and yourself. The angle of elevation from your position to the top of the skyscraper is 42°. The angle of elevation from your friend's position to the top of the skyscraper is 71°. To the nearest foot, how far are you from your friend?