Pre-Calculus Honors Introduction to Trigonometry Unit 6

1. Find the first positive and the first negative coterminal angle for each of the following:
2. $\frac{2π}{9}$ b. $\frac{20π}{5}$ c. -120˚ d. 485˚
3. Given one trig function of a right triangle find the remaining values.
4. $sinθ= \frac{5}{8}$ b. $cscθ= \frac{9}{4}$ c. $cotθ= \frac{2}{7}$
5. Evaluate the six trig functions given a point on the terminal side of the angle.
6. (-2,4) b. (6,-1) c. (-3,-4)
7. Determine the exact values of the six trig functions given the following:
8. csc θ = 3 and tan θ < 0 b. sin θ = 2/3 and cos θ < 0
9. Find the reference angle for the following in the given units.
10. $\frac{7π}{9}$ b. $\frac{15π}{5}$ c. 315˚ d. 515˚
11. The Aerial Run in snowbird, Utah, has an angle of elevation of 20˚ and a vertical drop of 2900 feet.

 Estimate the length of this run.

1. A run has an angle of elevation of 15.7° and a vertical drop of 1800 feet. Estimate the length of this run.
2. In order to construct a bridge across a river, the width of the river at that location must be determined. Suppose a stake is planted on one side of the river directly across from a second stake on the opposite side. At a distance 50 meters to the left of the stake, an angle of 82° is measured between the two stakes. Find the width of the river.
3. John is looking down from the top of a 50 ft tall building. The angles of depression, respectively, to his favorite hot dog stand and his favorite coffee shop are 32˚ and 38˚. How far is it between them?
4. From a point 500 feet from the base of a building, the angle of elevation to the top of the roof is. From

 the same point, the angle of elevation to the top of the flag pole (mounted on top of the roof) is . Find

 the height of the flag pole to the nearest tenth of a foot.

1. An airplane 1,020 feet above the ground spots two cities. The angle of depression to the first city is and

 the angle of depression to the second city is . Calculate the distance between the two cities to the nearest

 foot.

1. A 6 foot tall man, standing 125 feet from a building, spots an eagle sitting on the edge of the roof. The angle

 of elevation from the man’s head to the top of the building is . How tall is the building to the nearest

 foot?

1. A tree casts a 5.57 m shadow. If the angle of depression from the sun to the end most point of the shadow is

 , find the height of the tree to the nearest meter.

1. A kite flying in the wind 50 feet above the ground has an 80 foot long string. Find the angle of elevation

 from the end of the string to the top of the kite.

1. From the top of an observation tower 300 yards tall, a man observes a car at an angle of depression of .

 How far is the car from the tower?