HONORS Pre-Calc Unit 3 – Quiz 1: Using Law of Sines and Law of Cosines - A

Group Members: _____ **Date:** _____ **Period:** ___

_____

_____

Show all work (5 pts), including picture/model (5 pts), formulas used, and information entered into the calculator. Label answers appropriately on the space provided (15 pts), including correct variable(s) and units of measure.*

1.) Two points M and N are separated by a swamp. A base line MK is established on one side of the swamp. MK is 180 m in length. The measure of angle K is 62° and angle N is 74°. Find the distance between M and N.

Picture/Model: **Answer:** _____

Work:

2.) The baseball player in center field is playing approximately 330 feet from the television camera that is behind home plate. A batter hits a ball that goes to the wall 420 feet from the camera. Approximate the number of feet that the center fielder has to run to make the catch if the camera turns 8° to follow the play.

Picture/Model: **Answer:** _____

Work:

3.) The courtyard for a building is in the shape of a triangle. A non-included angle measures $25°$, the side opposite this angle is 14 meters, and an adjacent side is 12 meters. Solve the triangle.

Picture/Model: **Answers:** _____

_____

Work: _____

4.) A farmer has a triangular field with sides 120 yards, 170 yards, and 220 yards. Find the largest and the smallest angle measures.

Picture/Model: **Answers:** _____

_____

Work:

EXTRA CREDIT **PICK ONE TO SOLVE FOR θ on the interval $[0, 2\pi]$. Show all work. Place answer on correct line.**

A and B are worth 5 points; C and D are worth 10 points

A. $2\sqrt{3}\sin(\theta) = 3$ A.) _____

B. $\sin\theta\cos\theta - \frac{1}{2}\cos\theta = 0$ B.) _____

C. $Cos^2(3\theta) + 1 = 0$ C.) _____

D. $2tan^2\theta - tan^4\theta = 1$ D.) _____