**APPLICATIONS OF TRIG II Name:**

*All of the following word problems can be solved by using either the sine or cosine laws. Choose your equation(s) wisely, and be aware that you might have to find some alternate piece of information first.*

*For each question, you must*

1. *Draw a picture of the situation. Label the angles and sides of your triangle. (1)*
2. *Solve for the unknowns, showing your work fully (1-3)*
3. *State your final answer, with units, in sentence form. (1)*

1. A post is supported by two wires (one on each side going in opposite directions) creating an angle of 80˚ between the wires. The ends of the wires are 12m apart on the ground with one wire forming an angle of 40˚ with the ground. Find the lengths of the two wires. (5T)

2. Two ships are sailing from Halifax. The Nina is sailing due East and the Pinta is sailing 43˚ South of East. After an hour, the Nina has travelled 115 km and the Pinta has travelled 98 km. How far apart are the two ships? (4T)

3. Two Scuba divers are 20m apart below the surface of the water. They both spot a shark that is below & between them. The angle of depression from diver 1 to the shark is 47˚ and the angle of depression from diver 2 to the shark is 40˚. How far are each of the divers from the shark? (5T)

4. To Estimate the length of a lake, Caleb starts at one end of the lake and walks 95m East. He then turns and walks on a new path that goes North-West. The angle between these two paths is 60˚. After walking 87m, he arrives at the other end of the lake. Approximately how long is the lake? (4T)

6. Solve the triangle. (4T)

