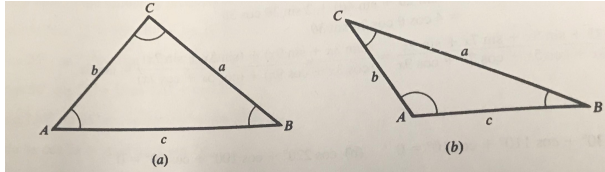Additional Problems Assignment 11

1. Find the exact value of the following:

   (a) $2\cos^2(15°) - 1$
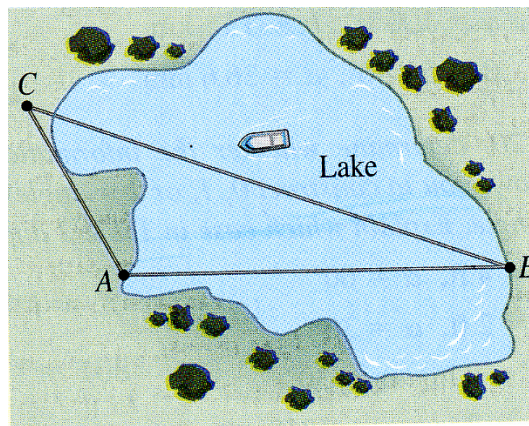
   (b) $2\sin(15°)\cos(15°)$

2. Using the notation from below solve the following triangle (that is find the unknown side lengths and unknown angle).



   (a) $b = 50.4, c = 33.3, B = 118°$

   (b) $a = 6.34, b = 7.30, c = 9.98$

3. An underwater telephone cable is to cross a shallow lake from point $A$ to point $B$. Stakes are located at $A$, $B$ and $C$. Distance $AC$ is measured to be 112m $\angle CAB$ to be 118.4°, and $\angle ABC$ to be 19.2°. Find the distance $AB$.



4. To estimate the length $CB$ of the lake in the figure that follows, a surveyor measures $AB$ and $AC$ to 89m and 75m, respectively, and $\angle CAB$ to be 95°. Find the approximate length of the lake.