Name_____ Date_____ Period_____

PreAP Precalculus: Practice Test 6.5-6.6 Law of Sines & Cosines & Area

Calculator permitted. Round all answers to 3 decimals with NO INTERMEDIATE ROUNDING ERROR.

Given the information for each triangle below, complete the chart. If there are more than one possible solutions, give the full solution to **both** triangles. If there is no triangle or unique triangle, say so and justify. Assume all angles in degrees. SHOW ALL WORK, DRAW ALL TRIANGLES!!

	a	***b***	***c***	***A***	***B***	***C***	***AREA***
1.			50	11	27		
2.	10	6			31		
3.	9	18	8				
4.	10		5		10		
5.				58	72	50	
6.	20			30	60		
7.	3	7	8				
8.	4	1			34		

9. Determine the area of a regular pentagon which is inscribed in a circle of radius 8.76 ft.

10. A builder must know the distance across a small lake between two points A and B. A surveyor is hired to measure the distances from C to A and from C to B and finds them to be 700 and 612 yd, respectively. The measure of $\angle ACB$ is 79°. Determine the distance from A to B.

11. From the top of a 100-foot lighthouse on top of a hill, a ship is observed at an angle of depression measuring 17.6°. If the angle of depression to the ship from the base of the lighthouse measures 15.4°, how many feet is it from the ship to the base of the lighthouse?