Pre-AP Precalculus Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
**HW: Law of Sines and Cosines**

**For #1-10, use the Law of Sines or Cosines to solve the triangle.**

1. $A=25°, B=60°, a=12$ 2. a=15, b=19. C=43

3. $C=115°, a=11, b=21$ 4. $A=24.3°, C=54.6°, c=2.68$

5. $A=34°,b=24,c=46$ 6. $A=30°, b=18, c=16$

7. A bridge is to be built across a small lake from a gazebo to a dock. The heading from the gazebo to the dock is $S 41° W$. From a tree 100 meters from the gazebo, the headings to the gazebo and the dock are $S 74° E$ and $S 28° E$, respectively. Find the distance from the gazebo to the dock.



8. A triangular field is 452 ft on one side, and 572 ft on another. The sides meet at an angle of $67.1° $

Find the length of the third side to the nearest foot.

9. The heading from the Pine Knob fire tower to the Colt Station fire tower is $N 65° E$, and the two towers are 30 kilometers apart. A fire spotted by rangers in each tower has a heading of $N 80°E$ from Pine Knob and $S 70° E$ from Colt Station. Find the distance of the fire from each tower.



10. A ship travels for 3 hours at 150 mph at a bearing of 55 before it turns and sails due south for 2 hours at 200 mph. After 5 hours, how far is the ship from where it started?