Dr. K. Jarosz **NAME (print!) :** _____

MATH. 125, QUIZ 12 - Section 6.1 (25points = 5% final grade)

You are allowed to use a calculator but you still have to show your work step by step (like in the book) not just write the final answer.

1. (10 points) Two surveyors 180 meters apart on the same side of a river measure their respective angles to a point on the other side of the river and obtain $54°$ and $68°$. How far from the point (line-of-sight distance) is each surveyor? Round your answer to the nearest whole number. Hint: Carefully draw a picture of the situation.

2. (17 total for both parts) For the data below determine if the given measurements produce one triangle, two triangles, or no triangle at all. Solve each triangle that results. Round to the nearest tenth and the nearest degree for sides and angles, respectively. Hint: Carefully draw a picture of the situation.

   (a)

$$a = 5, b = 12, \alpha = 25°$$

continue on *the next page*

(b)

$$a = 8, b = 12, \alpha = 25^\circ$$