Honors Trigonometry Name _____

Copy original problem. Per _____ Date _____

Convince *me* that **you** understand the concept***!***

Chapter 5 Exam

All degree measurements are to be to nearest minute and length measurements to nearest hundredth.

I

Solve for all missing parts of the given triangle ABC: State the area of each triangle. (15 pts ea)

A) $B = 67^\circ 40'$, $a = 50$, $c = 70$

B) $B = 60^\circ$, $c = 8$, $A = 30^\circ$

C) $a = 8$, $b = 9$, $c = 5$

D) $B = 30^\circ$, $c = 10$, $b = 8$

II

State whether there are ***none, one, or two or more*** triangles from the given information. Include a picture and a brief statement supporting your conclusion. (5 pts ea)

A) $A = 130^\circ$, $a = 40$, $c = 60$

B) $A = 40^\circ$, $a = 10$, $c = 10$

C) $A = 50^\circ$, $a = 6$, $c = 10$

D) $A = 30^\circ$, $a = 25$, $c = 30$

E) $C = 30^\circ$, $c = 5$, $b = 4$

F) $B = 95^\circ 42'$, $c = 8$, $A = 84^\circ 18'$

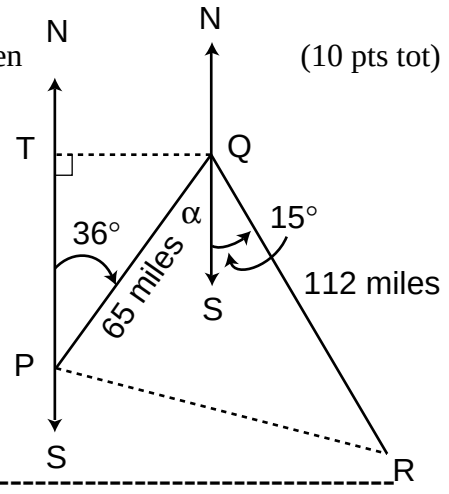
III

A ship leaves port,P, and travels 65 miles on a bearing of N36°E. It then changes course and sails 112 miles on a bearing of S15°E. (10 pts tot)

A) What is angle α ?

B) What is the measure of angle PQR?

C) How far is the ship from port at this point? (ie. find the length PR)



Extra Credit ---------- 5 pts ----------

Solve for θ where $0 \le \theta < 360^\circ$ $\cot\theta = \tan\left(2\theta - 270^\circ\right)$