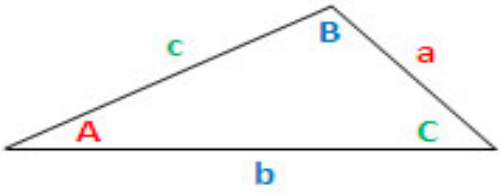
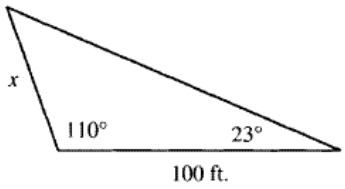
Accel Math III Handout: Ambiguous Case Name _____
Unit 7: Extended Trigonometry
Lesson 1: Law of Sines (Part II) **MA3A6**

EQ:

Recall: Law of Sines:

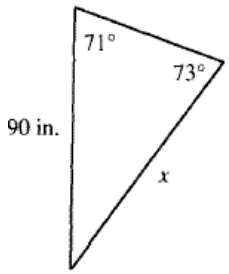


Case 1: Two Angles and the Included Side Known

_____ 

NOTE: YOU KNOW A _____ _____ AND _____ _____!

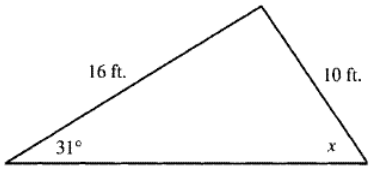
Case 2: Two Angles and a Non-Included Side Known

_____ 

NOTE: YOU KNOW A _____ _____ AND _____ _____!

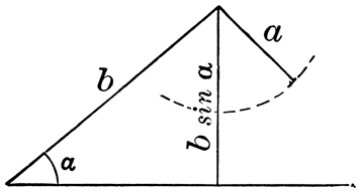
The Ambiguous Case: Can result in _____ triangle, _____ triangles, or _____ triangle.

Case 3: Two Sides and the Angle Opposite One of Them Known

_____ 

NOTE: YOU HAVE A _____ _____
BUT YOU ONLY KNOW _____ _____!!

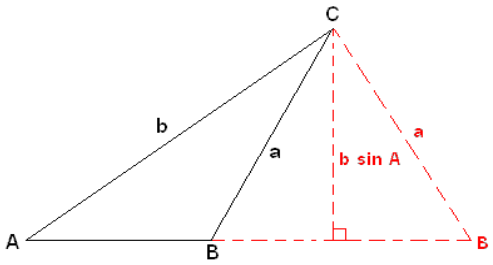
In the pictures to the right, ∡A, b, and a are given.



Scenario 1: ∡A is _____

If _____ < ____ sin _____, it is _____ to form a triangle

Result:



Scenario 2: ∡A is _____

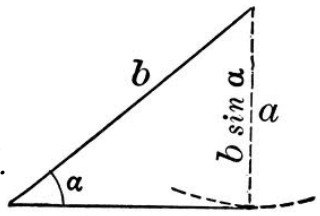
If _____ > _____, at least _____ triangle can be formed.

If _____sin _____< ____ < _____, _____ _____ can be formed.

Result:

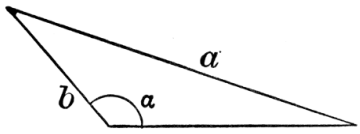
Scenario 3: ∡A is _____

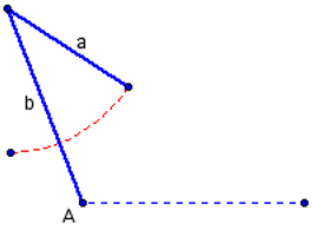
If _____ = _____ sin _____, a _____ _____ can be formed.



Result:

Scenario 4: ∡A is _____

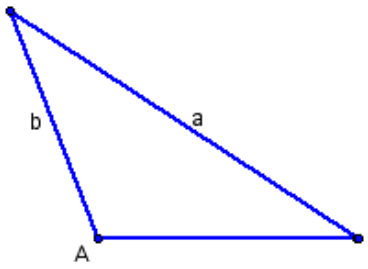




If ____ < ____ or _____ = ____, then _____ triangle can be formed.

Result:

Scenario 5: ∡A is _____



If _____ > _____ , then _____ triangle can be formed.

Result:

Ex 1. Determine how many solutions exist for each triangle. Find all missing parts.

a) $a = 8, b = 4, \measuredangle B = 30^\circ$

b) $a = 6, b = 4, \measuredangle B = 45^\circ$

c) $b = 7, c = 6.5, \measuredangle C = 60^\circ$

d) $a = 5, c = 10, \measuredangle C = 70^\circ$

Assignment: Practice Worksheet #2