Index Card #19A (Back & Front)

Law of Sines and Cosines – Ambiguous Case

Cut This Out and Tape onto an Index Card

 **Ambiguous Case - How many triangles are possible ?**

**Steps:**

**FIRST:** **Draw a Picture b a**

 A B

**SECOND:**  **Find your missing angle using Law of Sines**

**THIRD:** Is Sin **** If yes: **0 Triangles**  If NO: Step 4

**FOURTH:**

 **Remember:** $Sin θ$ **is Positive in Quadrants I and II**

**To find the 2nd possible angle….180-Angle gives you the 2nd Angle**

 **The angles of a Triangle sum to** $180°$

 so does the 2nd angle that you found go over $180°$ when you add it with the angle given???

 If yes: **1 Triangle** If NO: Step 5

 (If angle given is acute – Acute Triangle) (If angle given – Obtuse Triangle**)**

**FIFTH:**

The 2nd angle that you found does not go over $180°$ when you add it with the angle given

 If yes: **2 Triangles**

 b a a (1 Acute 1 Obtuse Triangle)

 Now you have two triangles: One with the first value of B found

 A B’ B The second with 180 – B for the value of B