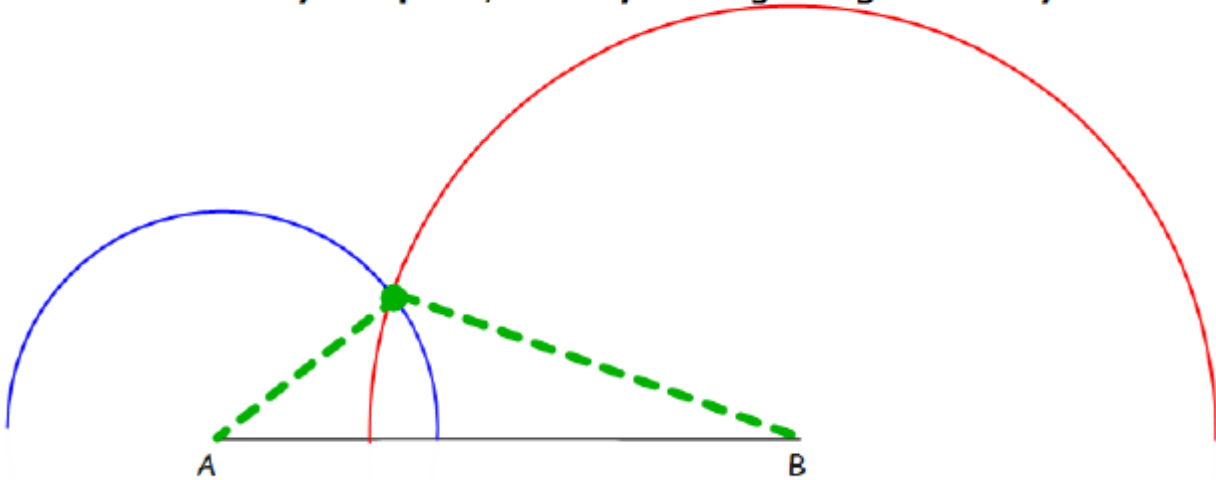


Triangle Congruence Results

1. SSS ["Side - Side - Side"] (Postulate)

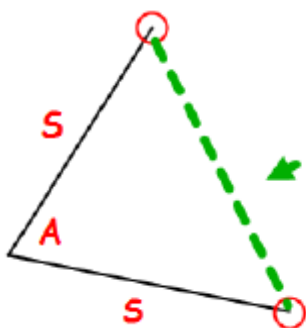
If given side-side-side, you would draw the initial figure as pictured below (one side).

Then, you know how far the third point must be from both A and B. Using your compass, draw the corresponding arc for each. These arcs intersect at only one point, thereby making SSS give exactly one triangle.



2. SAS ["Side - Angle - Side"] (Postulate)

If given side-angle-side, you would draw the initial figure as pictured below (one side and the angle).

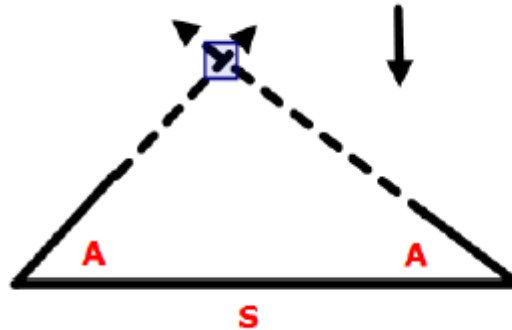


There is only one way to connect the sides to form a triangle.

Since only one triangle can be formed given SAS, it is a valid triangle shortcut

3. ASA ["Angle - Side - Angle"] (Postulate)

If given angle-side-angle, you would draw the initial figure as pictured below. Then, when extending the two sides highlighted, there is only one spot where they will intersect.



Therefore, given an ASA setup, there is only one triangle that can be formed fitting the particular description, so if you have two, they must be congruent!

4. AAS ["Angle - Angle - Side"] (Theorem) [Same as ASA]

THESE DO NOT WORK!

1. AAA ["Angle - Angle - Angle"] NO!!

You must know something about side lengths to say that triangles are congruent!

2. SSA ["Side - Side - Angle"] NO!!

You could have no triangles fit the description (red circle), one triangle fit the description (blue circle), or **TWO DIFFERENT TRIANGLES** fit the description (green circle).

