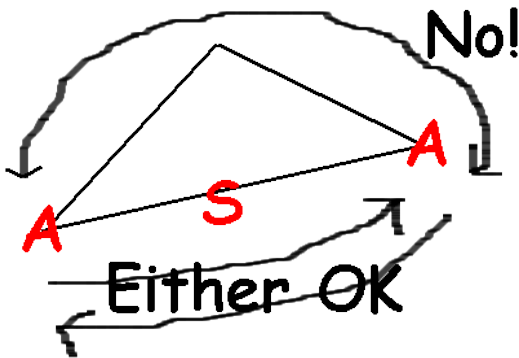


Help for Oblique Triangles

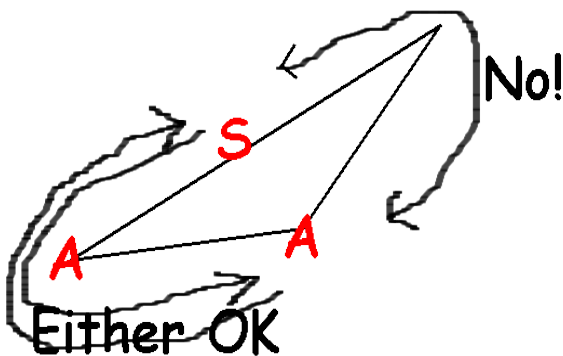
I hope this page will better exemplify how to determine if the givens in an oblique triangle are ASA, SAA, etc. The red letters stand for the given angles and sides. The arrows show the direction to read "around the triangle".

Example 1



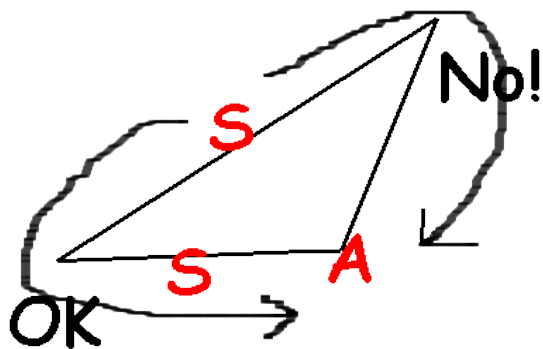
This is an example of an ASA triangle. Note that you can go either way as indicated and it is still ASA. You should not choose the NO routes because the idea is to pick the routes that go around the triangle in the most efficient way without going past sides/angles that aren't given. Utilize the "closeness" of the givens. Going the "long" way around (marked NO) would go past 2 sides and an angle that aren't given and that is a waste, so not the route to choose.

Example 2



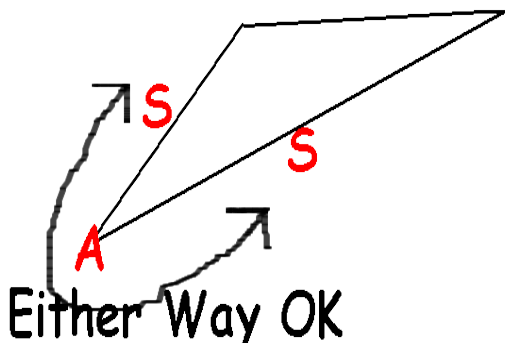
Here is an example of an SAA triangle. (Note that SAA=AAS depending on the direction marked "either OK" chosen.) The NO route should not be chosen because it goes via a side and angle that are not given ... that is going via more non-givens than the "either OK" routes which go past a given side, adjacent given angle, one non-given side, and a given angle.

Example 3



This is the "ambiguous case" SSA. Again, the OK route is the most efficient, going via only one non-given (an angle) compared to the NO route which goes via two non-givens (an angle and a side). See the "closeness" of the givens?

Example 4



This one is pretty easy since the SAS are all adjacent.

The only other possible combos are SSS (which is easy to identify) and AAA (which is impossible to solve). So, in summary, once you have identified which triangle you are given, use the following laws:

Law of Sines

ASA
SAA=AAS
SSA (the ambiguous case)

Law of Cosines

SAS
SSS