

Identifying Triangle Types by Their Labels

There are many different kinds of triangles, many ways to classify them, and many ways to use the information that you find from and about them. Today, you won't know why you're naming triangles the way that you are. You won't know the significance of the identifications that you're discovering. All I'll tell you is that you cannot discover or prove relationships between triangles without what you're doing today.

The rules:

"S" stands for "side," and is a label for the *segments*
Sides can only connect to what they **touch**.

"A" stands for "angle," and is a label for the *corners*.
Angles have wings and **can fly**—they don't have to touch **to connect to other angles**.
 HOWEVER, **angles** cannot show sides their wings—they **must touch a side to connect**.

Below are examples of connection maps, showing what labels *can connect* and what labels *cannot connect*.


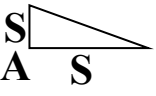
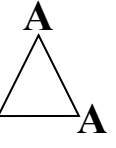
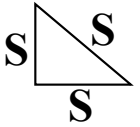

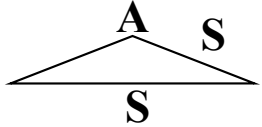

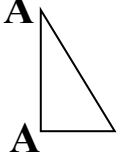
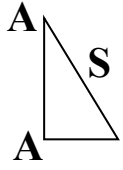


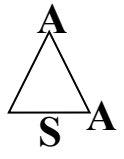

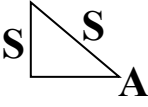

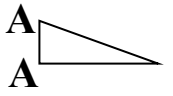
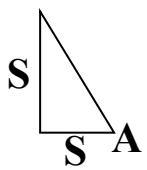
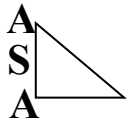
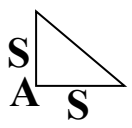
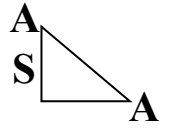

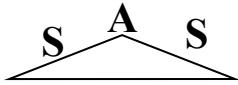


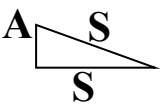
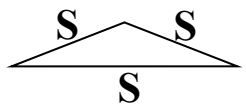
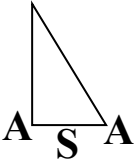
<p style="text-align: center;">These "A"s are connected-- they can fly to one another.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>These are all connected. The "S," "A," and "S" are all touching.</p> </div> <div style="text-align: center;"> <p>These are connected. The "A" and "S" are touching.</p> </div> </div> <p style="text-align: center;">BROKEN!! The "S" <u>can only</u> connect by TOUCH.</p> <p>There are two sets of connections here.</p> <ol style="list-style-type: none"> 1. SAS 2. AAS 	<div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p style="text-align: center;">The "S" in the middle is touching nothing, so it's connected to nothing. The "A"s to the right are not touching, but they can fly to each other, so the "A"s connect without touching.</p> <p>There are two sets of connections here:</p> <ol style="list-style-type: none"> 1. ASA 2. AA
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Now, let's apply those same principles to triangles. Remember, we're trying to **identify labeled connections**. Once you've found all of the *connections*, you can write their names by starting on either end of *connected set of labels*—*not the middle!* With one important exception (SSA), try to start with the lower letter (alphabetically speaking).

These are the six types of connections that you will see:

SSS SAS ASA AAS SSA AA

<p>EXAMPLE</p> <p><i>This side and these angles are NOT labeled-- they don't count. So, all I see is...</i></p> <p>The labeled connection is SAS.</p>	<p>EXAMPLE</p> <p><i>There are 2 sides and 1 angle that are NOT labeled-- they don't count. So, all I see is...</i></p> <p>This is either AAS or SAA— Alphabetically: AAS</p>	<p>1.</p>	<p>2.</p>
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3. 	4. 	5. 	6. 
7. 	8. 	9. 	10. 
11. 	12. 	13. 	14. 
15. 	16. 	17. 	18. 
19. 	20. 	21. 	22. 
23. 	24. 	25. 	26. 
27. 	28. 	29. 	30. 