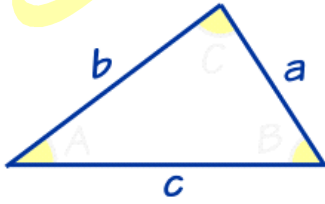


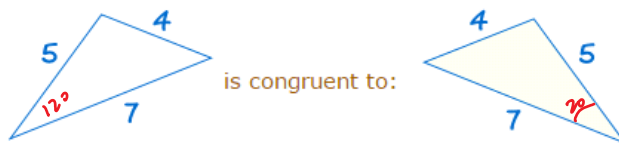
# Congruent Triangles

## 1. SSS (side, side, side)

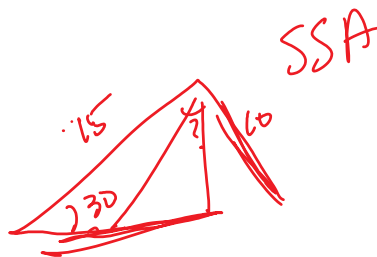
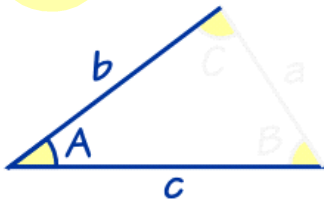


**SSS** stands for "side, side, side" and means that we have two triangles with all three sides equal.

For example:

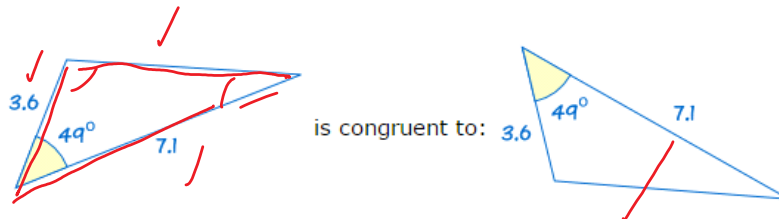


## 2. SAS (side, angle, side)

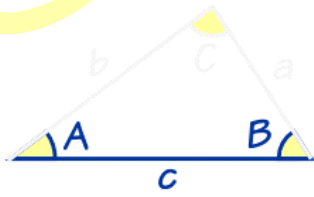


**SAS** stands for "side, angle, side" and means that we have two triangles where we know two sides and the included angle are equal.

For example:



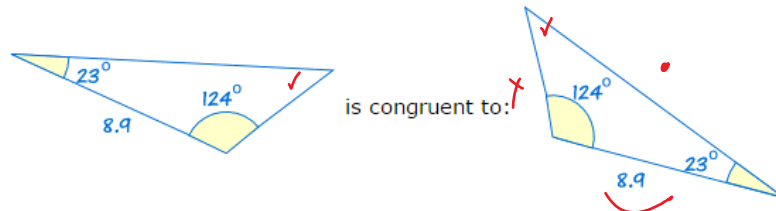
3. ASA (angle, side, angle)



AAS

ASA stands for "angle, side, angle" and means that we have two triangles where we know two angles and the included side are equal.

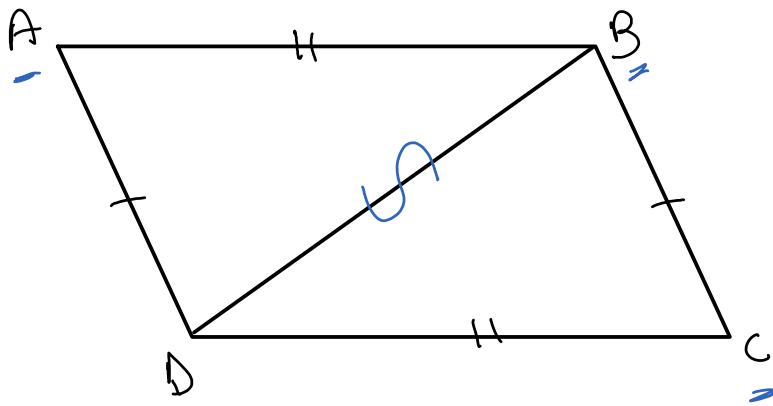
For example:



SSS  
SAS  
ASA

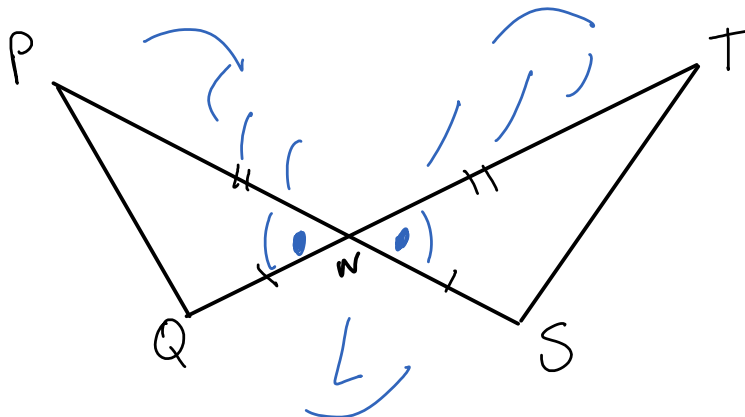
Examples:

1)



$\triangle ABD \cong \triangle CDB$

2)



yes  
 $\triangle PQR \cong \triangle TWS$   
SAS

3)

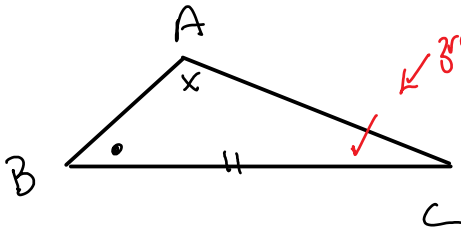
A

and angles are =

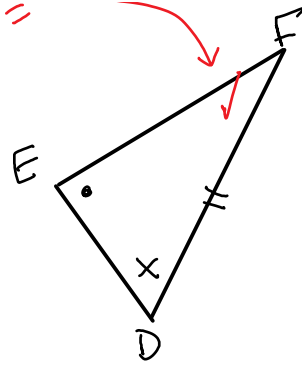


yes

3)

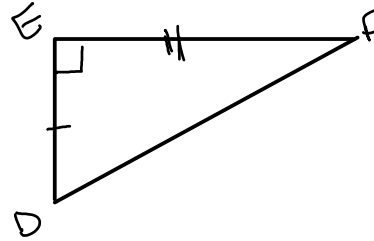
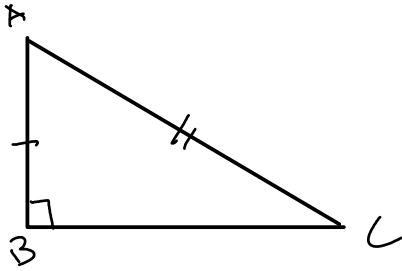


← 2nd angles are =



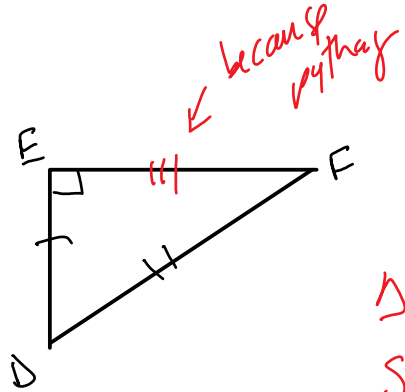
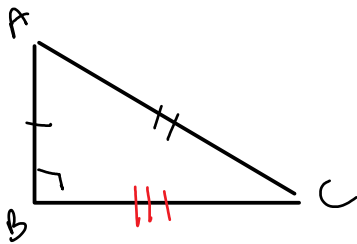
yes  
 $\triangle ABC \cong \triangle DEF$   
ASA

4)



No!

5)

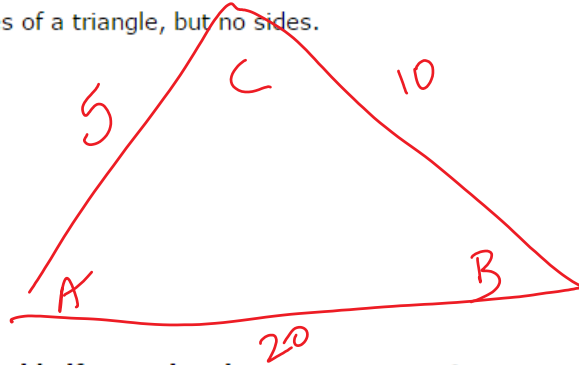
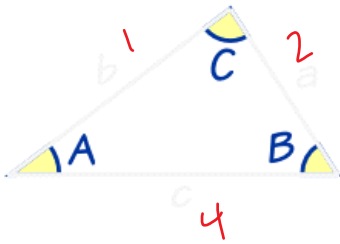


← because 1st 2 may.

$\triangle ABC \cong \triangle DEF$   
SSS or SAS

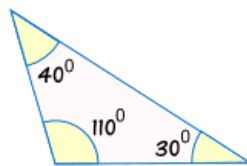
## Caution ! Don't Use "AAA" !

**AAA** means we are given all three angles of a triangle, but no sides.

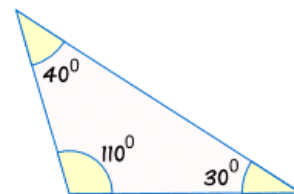


**This is not enough information to decide if two triangles are congruent!**

Because the triangles can have the same angles but be **different sizes**:



is **not** congruent to:



Without knowing at least one side, we can't be sure if two triangles are congruent.