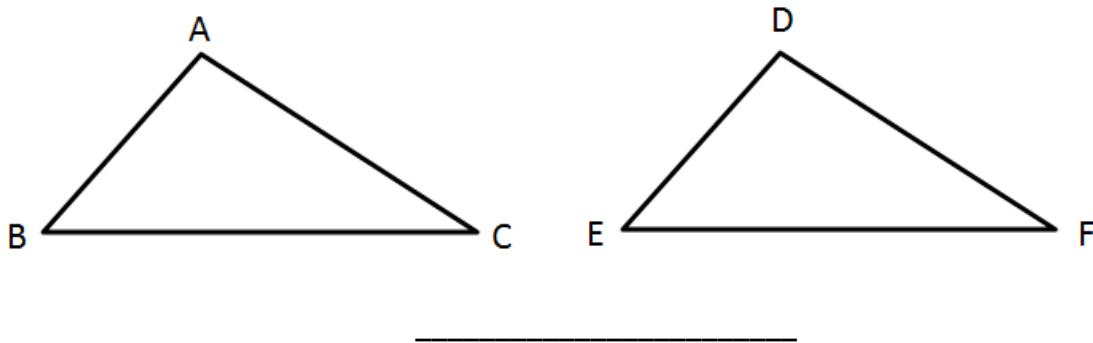


Sect 2.5 Exploring Congruent Triangles

Congruent Triangles

Two triangles are congruent if they have the same shape and the same size.
All corresponding angles and sides are congruent.



This congruency statement reads as
“triangle ABC is congruent to triangle DEF.”

When two triangles are congruent 6 statements are true.

There are 3 pairs of corresponding angles equal and 3 pairs of corresponding sides equal.

You can determine these 6 statements from the congruency statement or from the diagram.

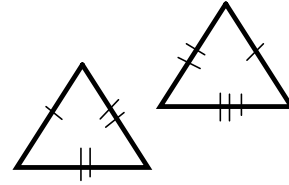
Angles

Sides

Summary.....of Minimum Conditions to Prove two Triangles are Congruent

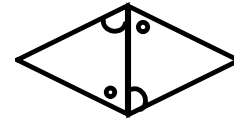
1. SSS → side, side, side

if the three sides in one triangle are equal to the corresponding sides in another triangle, the triangles ARE CONGRUENT.



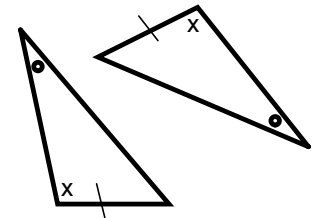
2. ASA → angle, side, angle

if the two angles and the contained side in one triangle are equal to the corresponding angles and side in another triangle, the triangles ARE CONGRUENT.



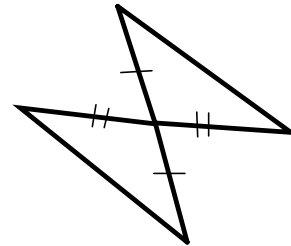
3. AAS → angle, angle, side

if the two angles and the non-contained side in one triangle are equal to the corresponding angles and side in another triangle, the triangles ARE CONGRUENT.



4. SAS → side, angle, side

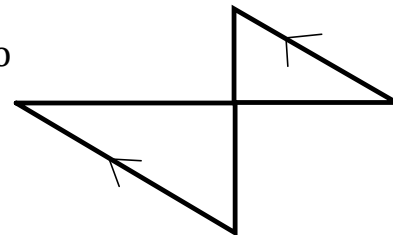
if the two sides and the contained angle in one triangle are equal to the corresponding sides and angle in another triangle, the triangles ARE CONGRUENT.



Please Note:

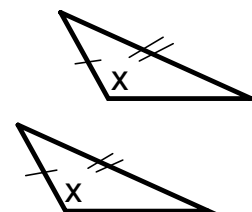
AAA → angle, angle, angle

if the three angles one triangle are equal to the corresponding angles in another triangle, the triangles are SIMILAR but NOT CONGRUENT!



SSA → side, side, angle

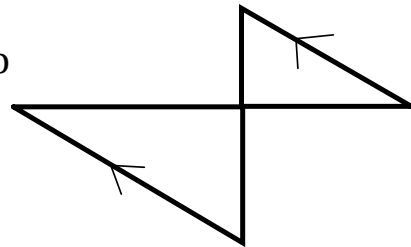
if the two sides and the non-contained angle in one triangle are equal to the corresponding sides and right angle in another triangle, the triangles are NOT CONGRUENT.



Please Note:

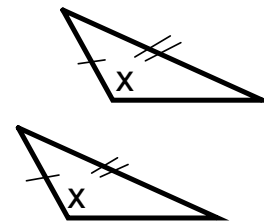
AAA → angle, angle, angle

if the three angles one triangle are equal to the corresponding angles in another triangle, the triangles are SIMILAR but NOT CONGRUENT!



SSA → side, side, angle

if the two sides and the non-contained angle in one triangle are equal to the corresponding sides and right angle in another triangle, the triangles are NOT CONGRUENT.



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Attachments

PM11-2s5.gsp