

Essential Question: In order to know if two triangles are congruent you do not need to verify that all three corresponding angle pairs and all three corresponding side pairs are congruent. Why not?

Questions:

Notes:

METHODS AND MEANINGS

Triangle Congruence Conditions

Two triangles are congruent if there is a sequence of rigid transformations that maps one triangle onto the other. If all three corresponding angles and all three corresponding sides of two triangles are congruent, then the two triangles are congruent and there is always a sequence of rigid transformations that maps one polygon onto the other.

However, you do not necessarily need to verify that all three corresponding angle pairs and all three corresponding side pairs are congruent. You can use specific combinations of only some of the congruent, corresponding parts to determine if triangles are congruent. These combinations, called **triangle congruence conditions**, are:

SSS (Read as "side-side-side")

If all three pairs of corresponding sides have equal lengths, then the triangles are congruent.



SAS (Read as "side-angle-side")

If two pairs of corresponding sides have equal lengths and the corresponding angles between them (the included angles) have equal measures, then the triangles are congruent.



ASA (Read as "angle-side-angle")

If two pairs of corresponding angles have equal measures and the pair of sides between them have equal measures, then the triangles are congruent.



AAS (Read as "angle-angle-side")

If two pairs of corresponding angles and a pair of corresponding sides that are not between them have equal measures, then the triangles are congruent.



HL (Read as "hypotenuse-leg")

If the hypotenuse and a leg of one right triangle have the same lengths as the hypotenuse and a leg of another right triangle, then the triangles are congruent.



MATH NOTES

1. _____

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2. _____

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Answer the essential question:

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