

# Chapter 7:

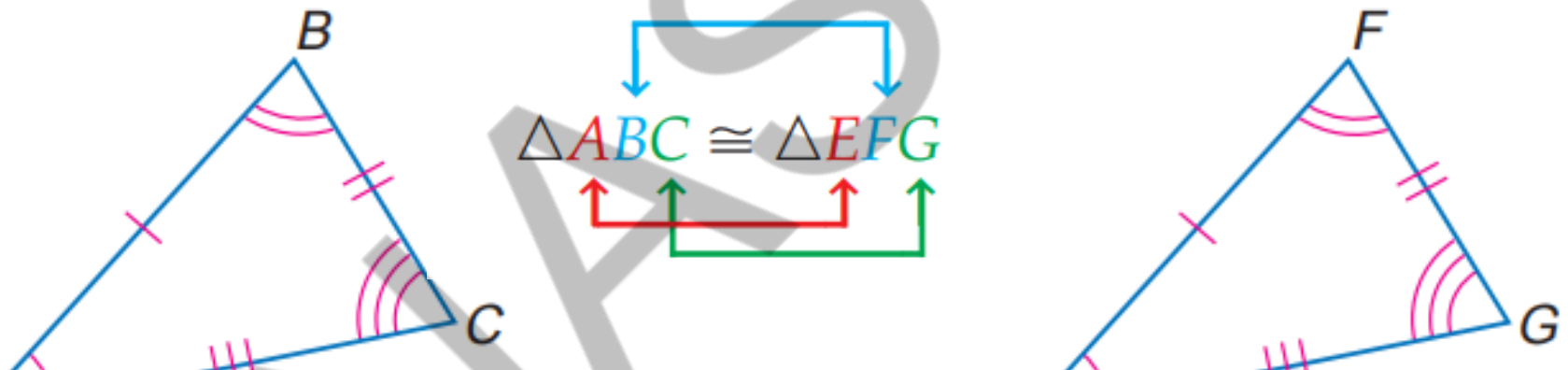
## Isometric Triangles (Congruent)

<http://passyworldofmathematics.com/congruent-triangles/>

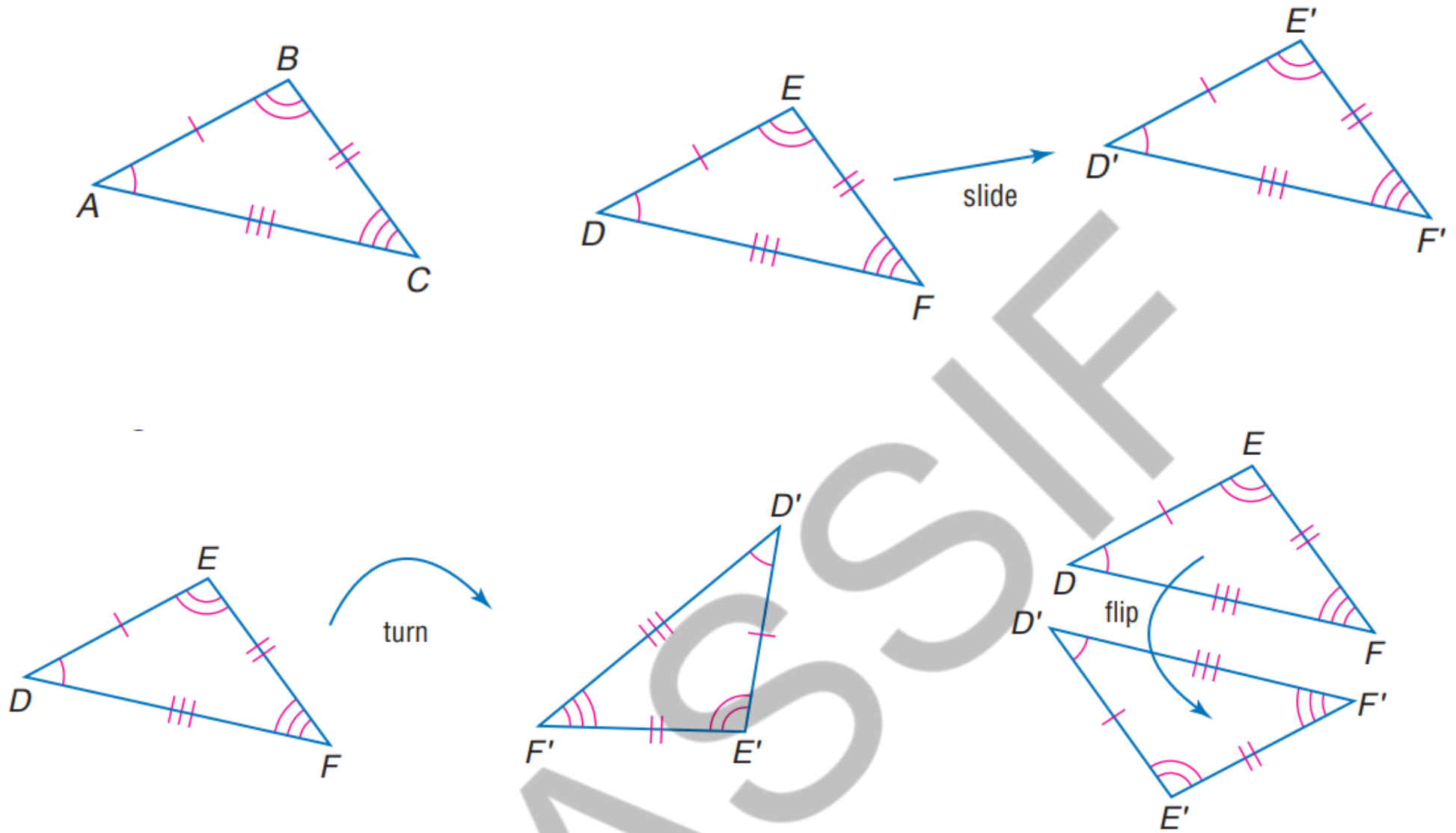
Triangles that are the same size and shape are called \_\_\_\_\_ or \_\_\_\_\_ triangles.

Each triangle has three \_\_\_\_\_ and three \_\_\_\_\_.

If all six of the corresponding parts of two triangles are congruent, then the triangles are congruent.

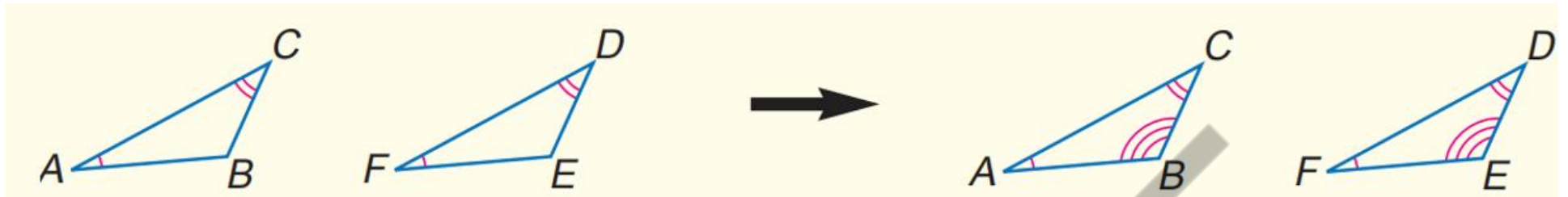


If you slide, flip, or turn a triangle, the size and shape do not change.



## Third Angle Theorem:

If you know two angles are equal then the third one is necessarily equal.



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To prove that two triangles are congruent, it is not necessary to show all six conditions. There are minimum conditions for showing that triangles are congruent. These are known as theorems of congruence.

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# Five Geometric Statements for Congruence

These 5 Rules state that 2 triangles will be congruent:

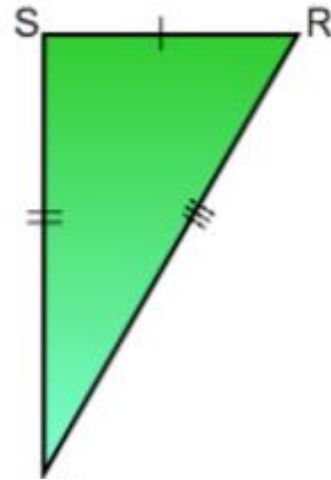
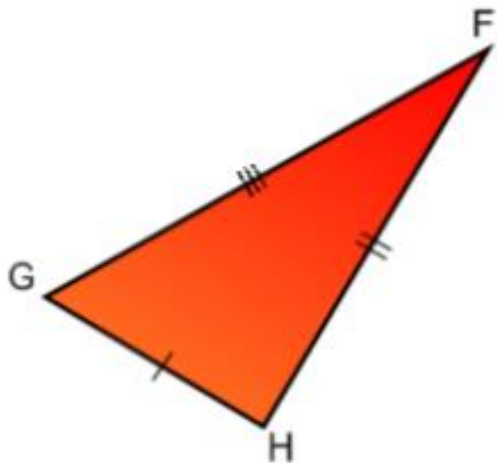
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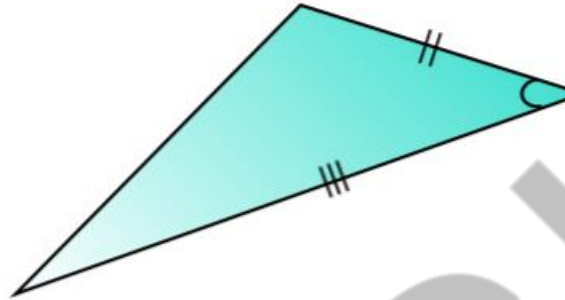
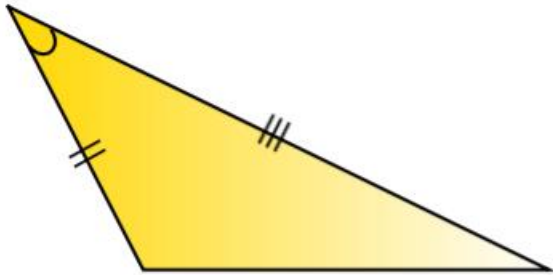
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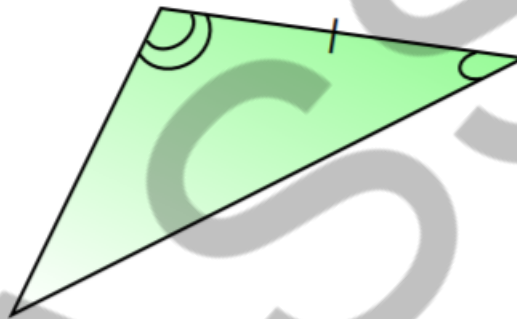
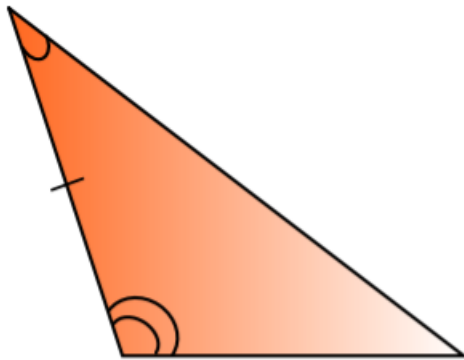
HL



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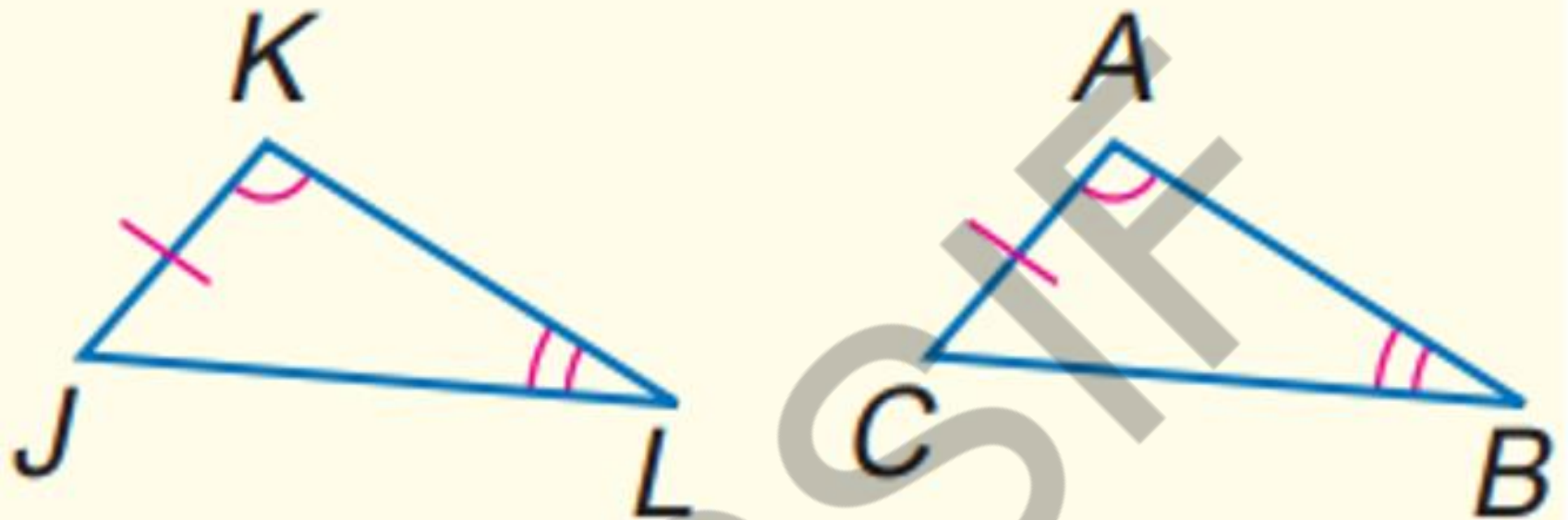


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congruence



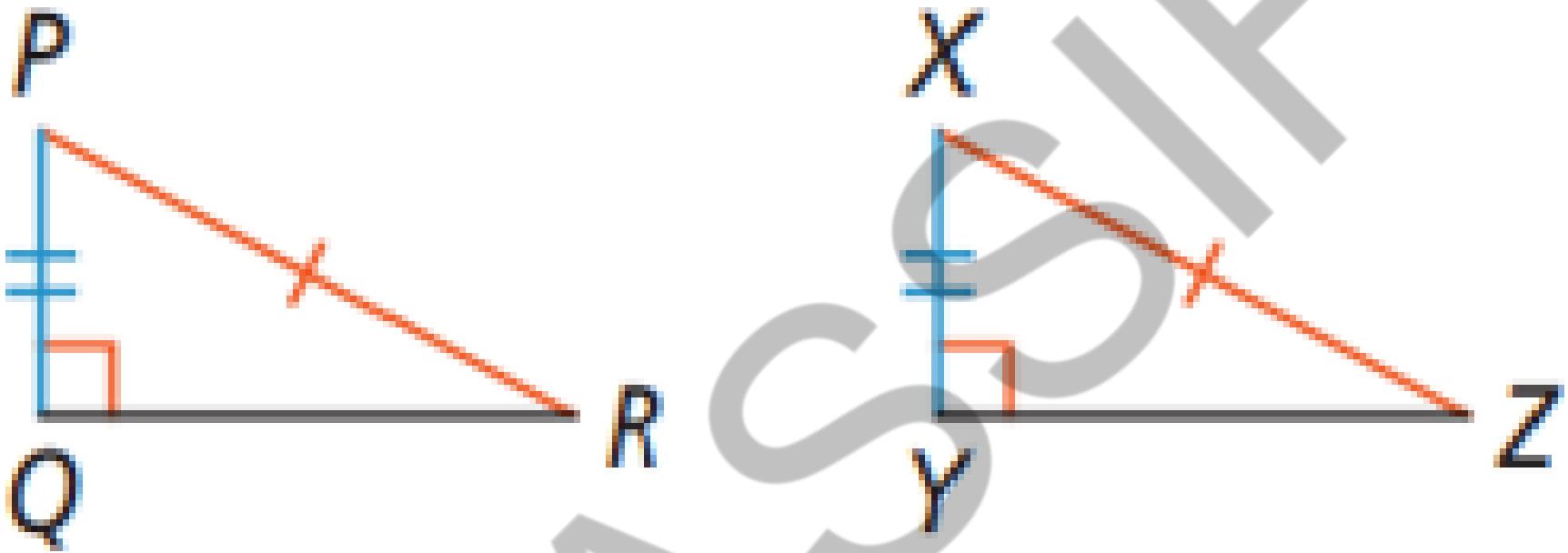
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# Angle-Angle-Side Congruence



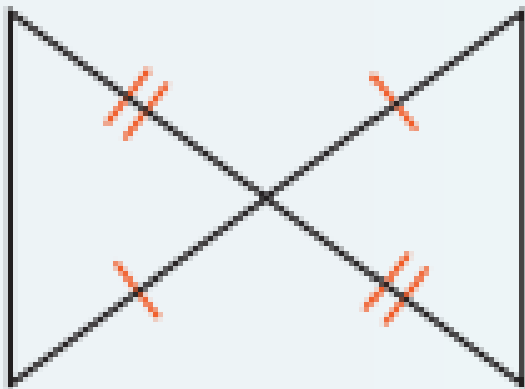
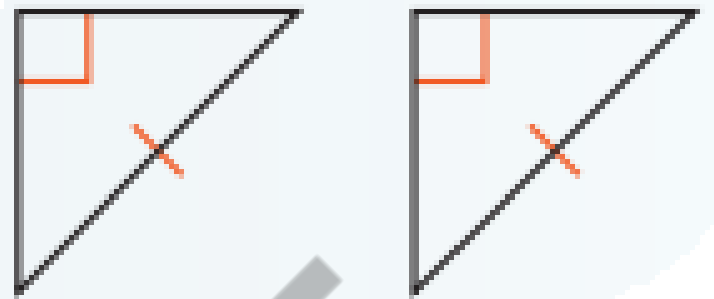
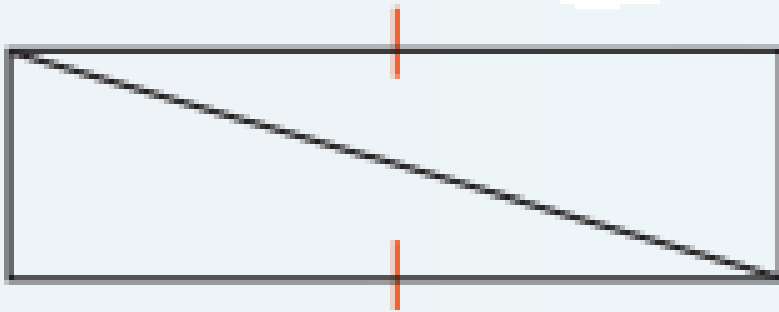
## Hypotenuse-Leg Congruence

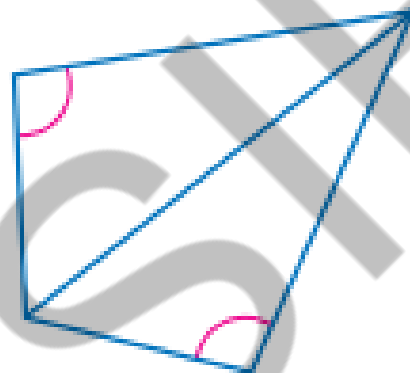
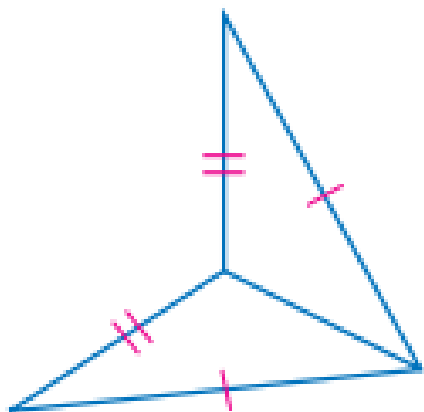
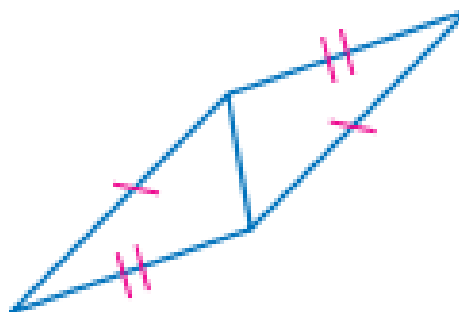
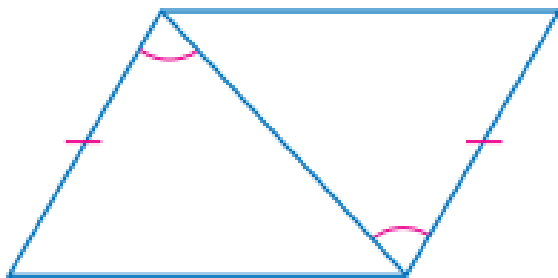
In a right triangle, if you know 2 sides are congruent then the 2 triangles are congruent. HL



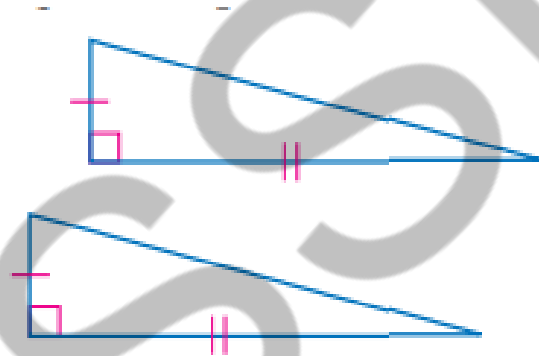
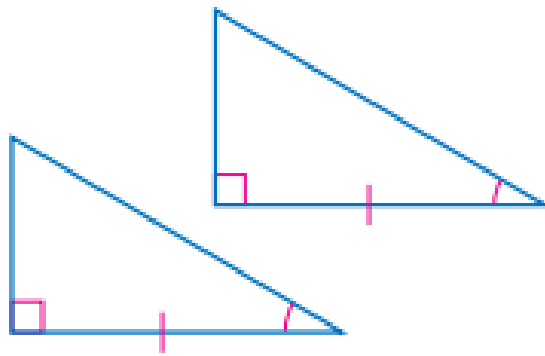
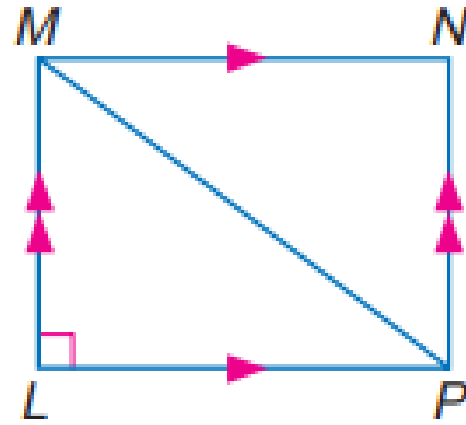
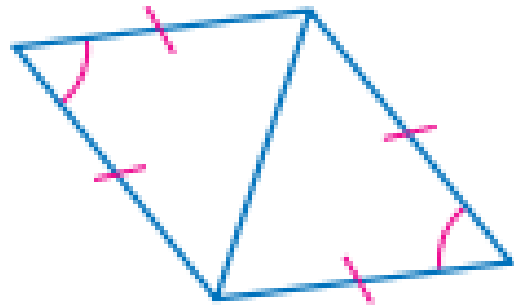


Are the triangles congruent? Justify your answer.

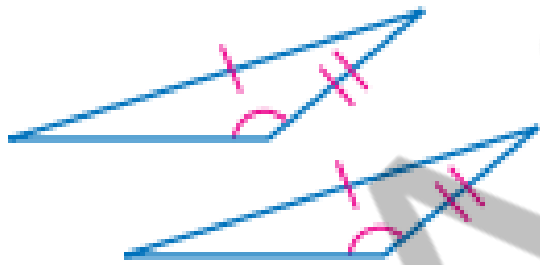
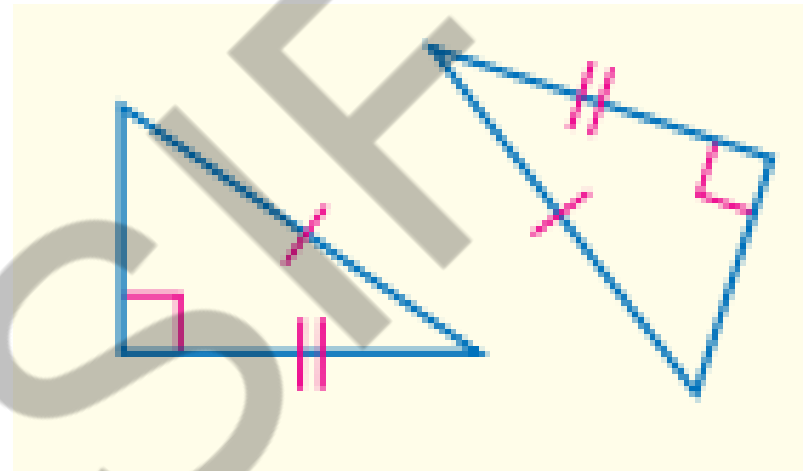
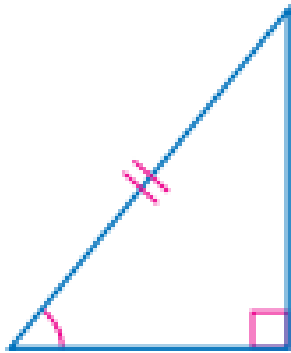
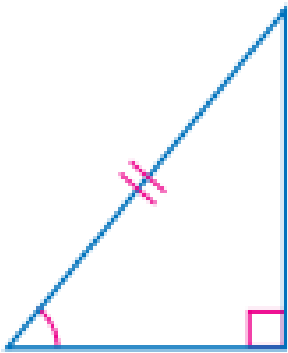
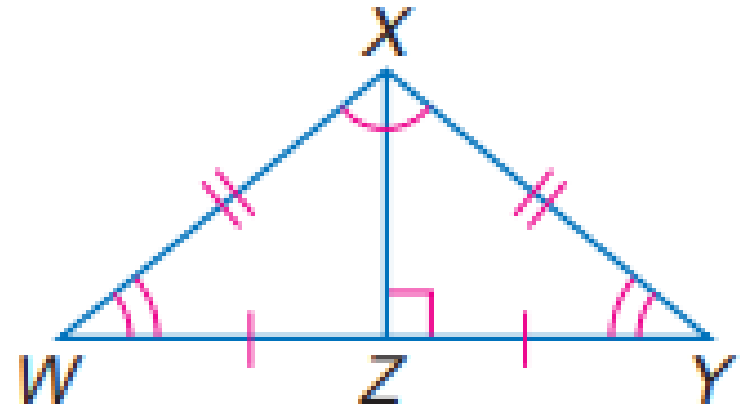
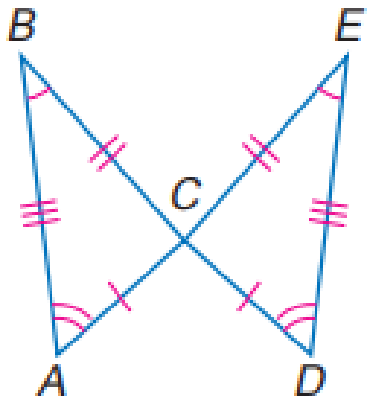




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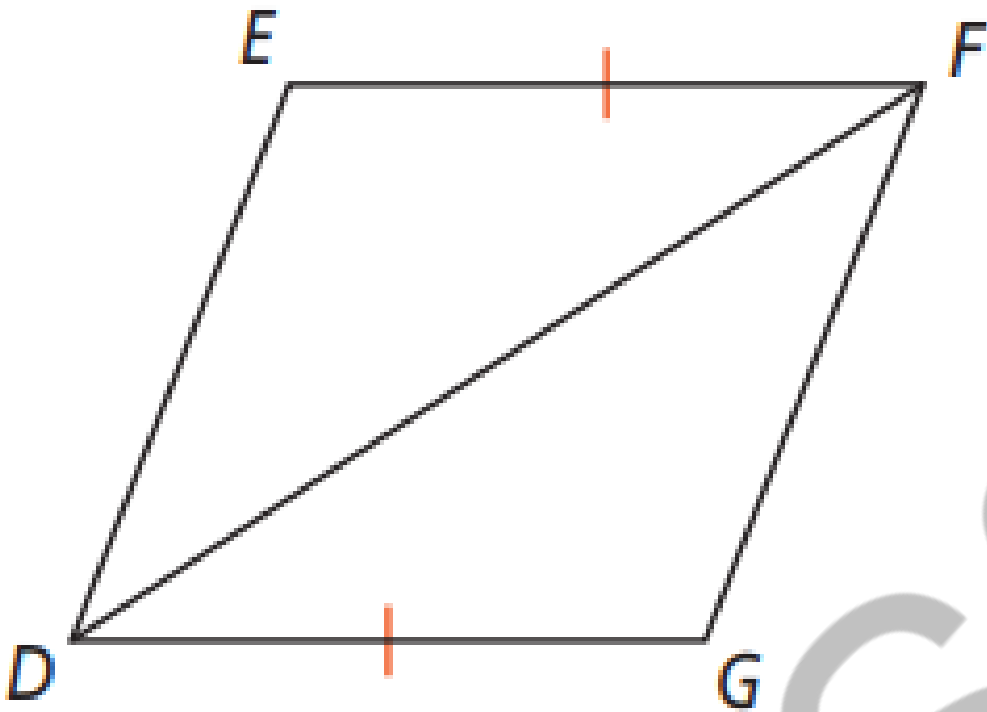


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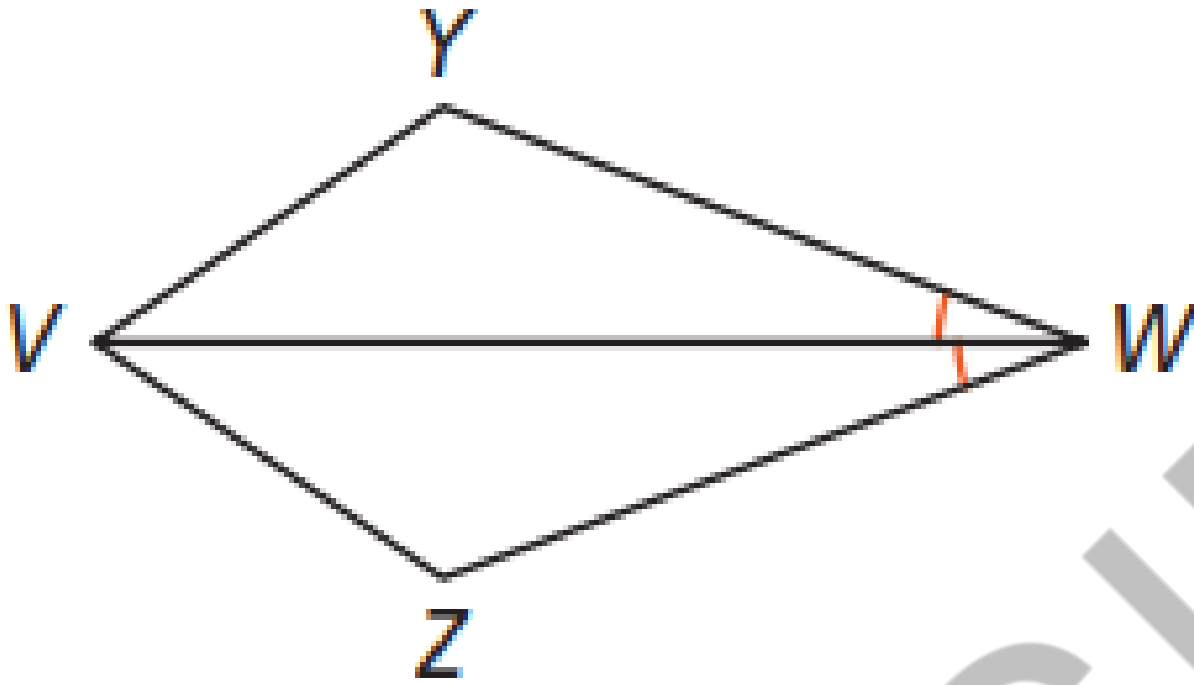


What other information do you need to prove that the triangles are congruent?

By SSS

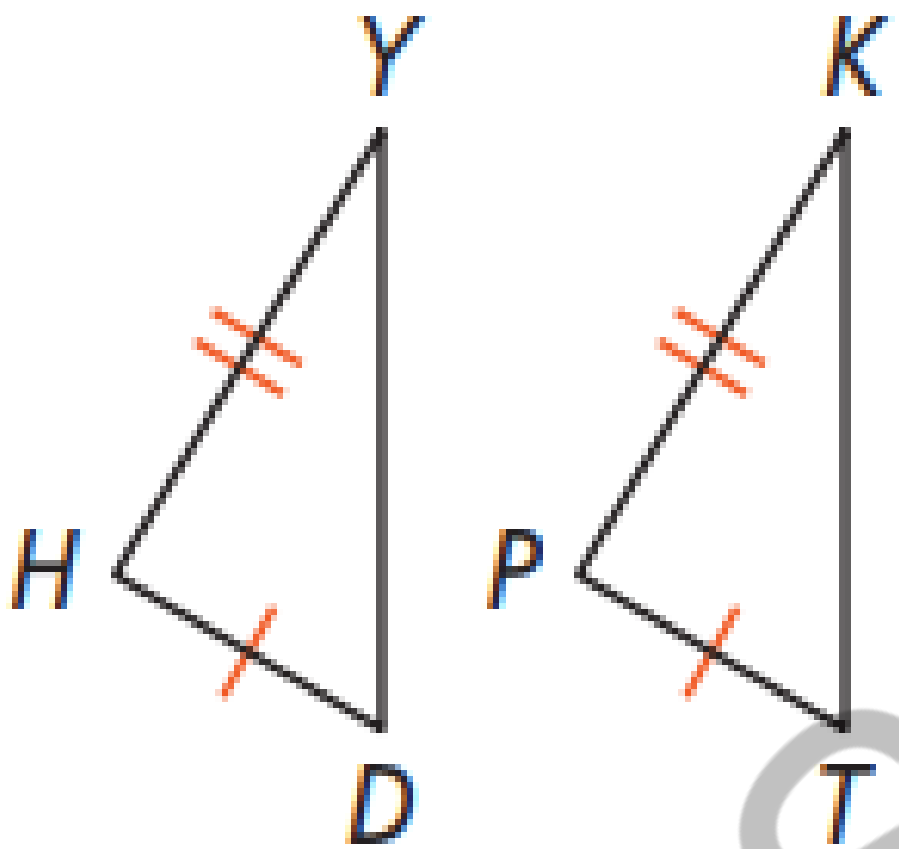


By ASA



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