

Geometry

Chapter 4

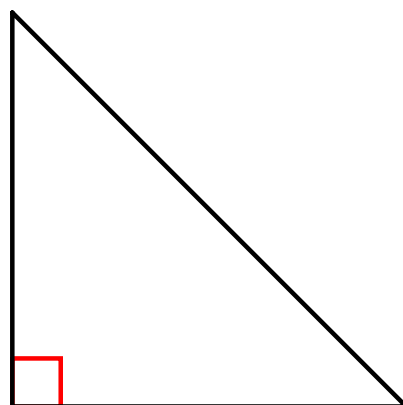
Section 4-6

May 13-10:02 PM

Right Triangles

A triangle with one right angle is called a right triangle.

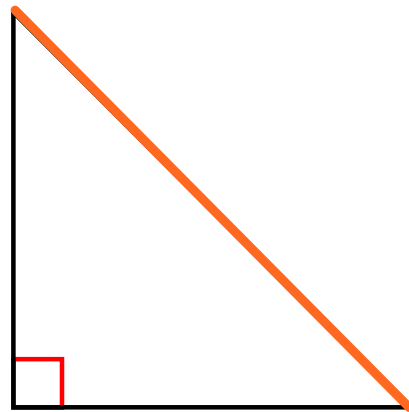
Why can't a triangle have more than one right angle?



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Right Triangles

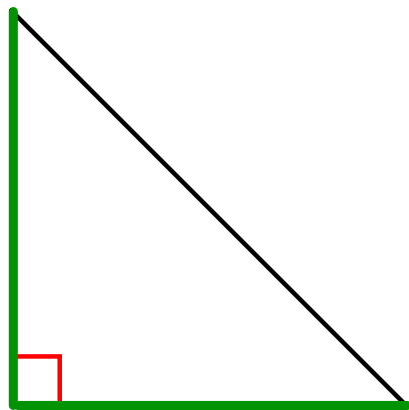
The side opposite the right angle is called the *hypotenuse*. It is the longest side of a right triangle.



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Right Triangles

The other two sides (next to the right angle) are called the *legs*. They are NOT ALWAYS congruent to each other.



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Theorem 4-6 Hypotenuse-Leg (HL) Theorem

Theorem

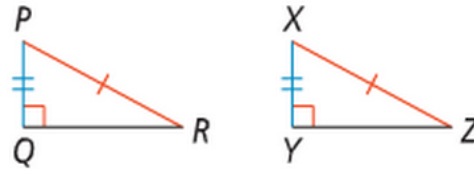
If the hypotenuse and a leg of one right triangle are congruent to the hypotenuse and a leg of another right triangle, then the triangles are congruent.

If ...

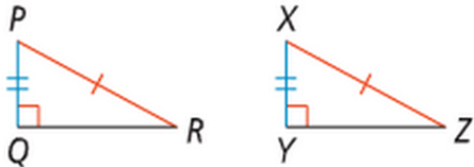
$\triangle PQR$ and $\triangle XYZ$ are right \triangle ,
 $\overline{PR} \cong \overline{XZ}$, and $\overline{PQ} \cong \overline{XY}$

Then ...

$\triangle PQR \cong \triangle XYZ$



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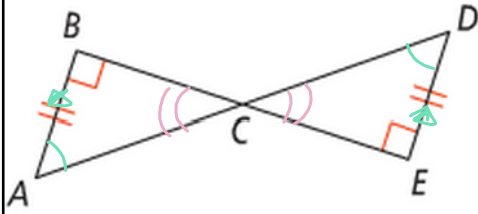


*** How could you use AAS to prove the triangles congruent?

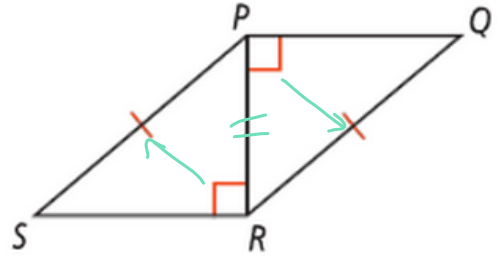


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What theorem or postulate allows us to conclude each set of triangles is congruent?



AAS



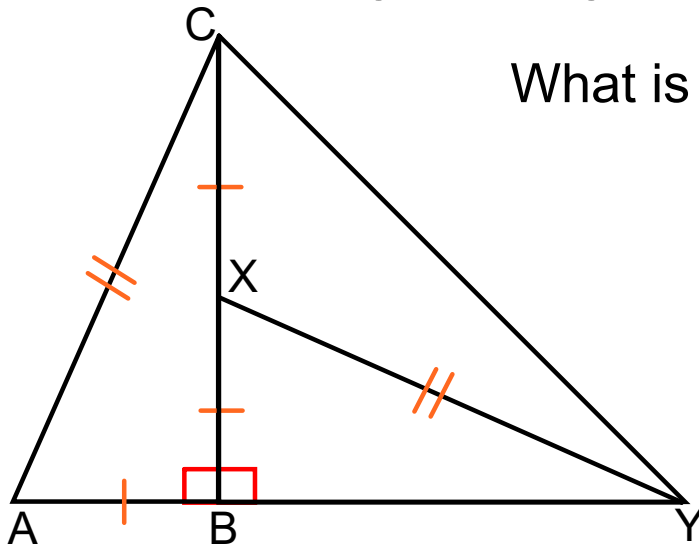
HL

Oct 25-5:04 PM

Right Triangles

What is $m\angle ABC$?

90°



Oct 25-1:30 PM

Right Triangles

Are there congruent triangles in the diagram?

$\triangle ABC \cong \triangle XBY$

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Right Triangles

If $AB=1$, then what are BC and AY ?

$BC=2, AY=3$

Oct 25-1:30 PM

Right Triangles

If $m\angle AYX = 26$, what is $m\angle A$?

$(90 + 26) + a = 180$
 $a = 64$

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Right Triangles

What is $m\angle BCY$?

$m\angle BCY = 45$

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Homework

Pages 262-263

10, 11, 16, 17, 18, 23, 24, 27, 28

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