

TOPIC 7-4: SIMILAR TRIANGLES

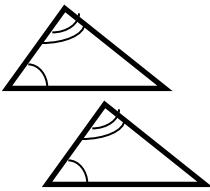
Objective: To apply triangle similarity relationships

When polygons are similar, two criteria must be met:

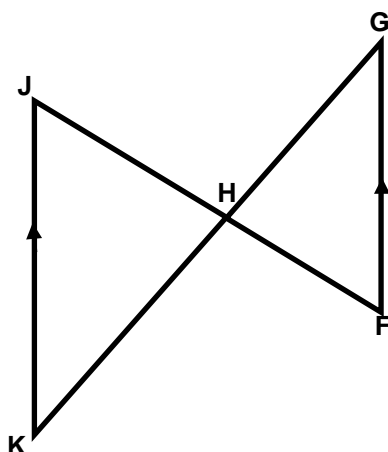
- 1) Corresponding angles are _____.
- 2) Corresponding sides are _____.

However...if you don't know the measures of all sides and angles, is there another way to tell?

There are several theorems that allow us to show that triangles are similar.

AA	_____ - _____ Similarity	
	If two angles of one triangle are _____ to two angles of another triangle, then the triangles are _____.	
Similarity		

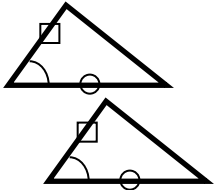
EXAMPLE 1 Can these triangles be proven similar by AA? If so, write a similarity statement.



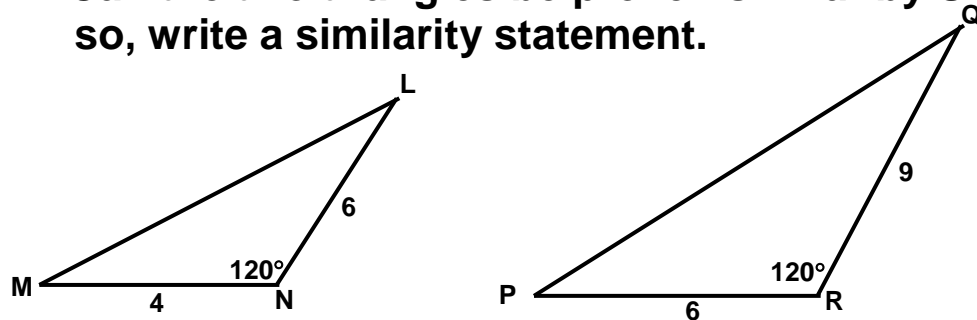
YES or NO

Δ _____ \sim Δ _____

A second way to show that triangles are similar is:

<h1 style="margin: 0;">SAS</h1> <h2 style="margin: 0;">Similarity</h2>	<p style="text-align: center;">_____ - _____ - _____</p> <p>In two triangles, if a pair of corresponding angles is _____ and the sides including the angle are _____, then the triangles are _____.</p>	<p>Similarity</p> 
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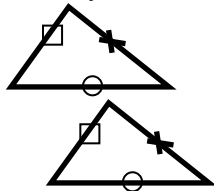
EXAMPLE 2 Can the two triangles be proven similar by SAS? If so, write a similarity statement.



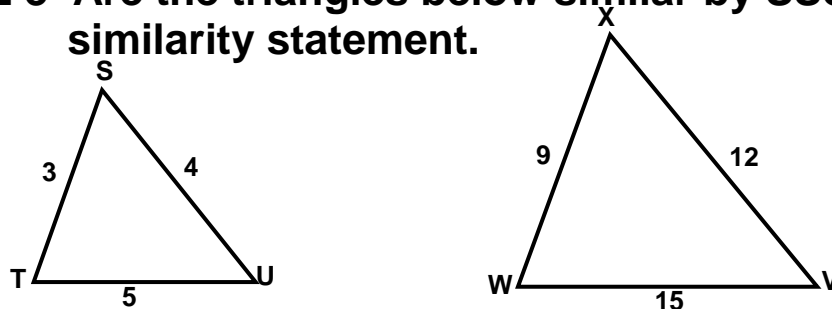
YES or NO

Δ _____ \sim Δ _____

There is a third way to show that triangles are similar...

<h1 style="margin: 0;">SSS</h1> <h2 style="margin: 0;">Similarity</h2>	<p style="text-align: center;">_____ - _____ - _____</p> <p>If all three pairs of corresponding sides of two triangles are _____, then the two triangles are _____.</p>	<p>Similarity</p> 
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EXAMPLE 3 Are the triangles below similar by SSS? If so, write a similarity statement.

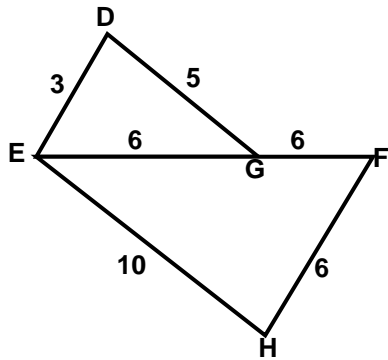


YES or NO

Δ _____ \sim Δ _____

EXAMPLES Are the two triangles similar? If so, state how and write a similarity statement.

4.

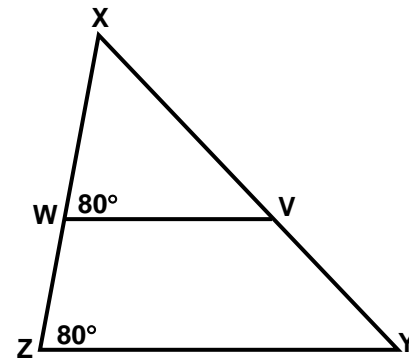


YES or NO

HOW?

\triangle _____ \sim \triangle _____

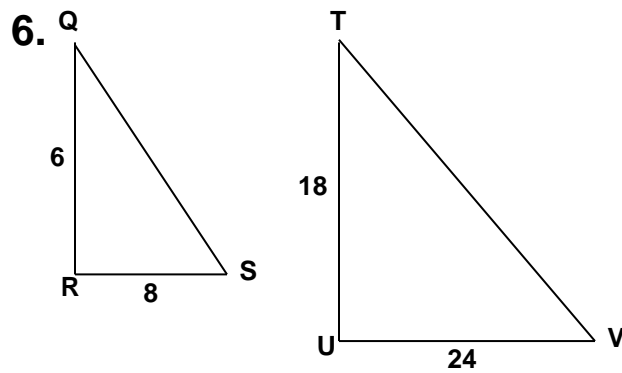
5.



YES or NO

HOW?

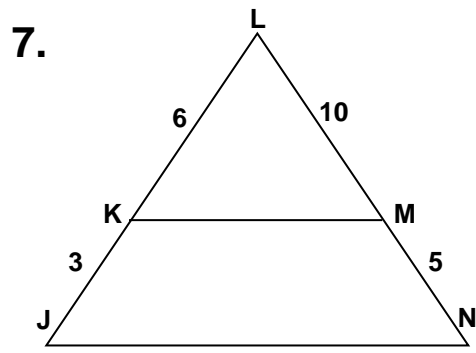
\triangle _____ \sim \triangle _____



YES or NO

HOW?

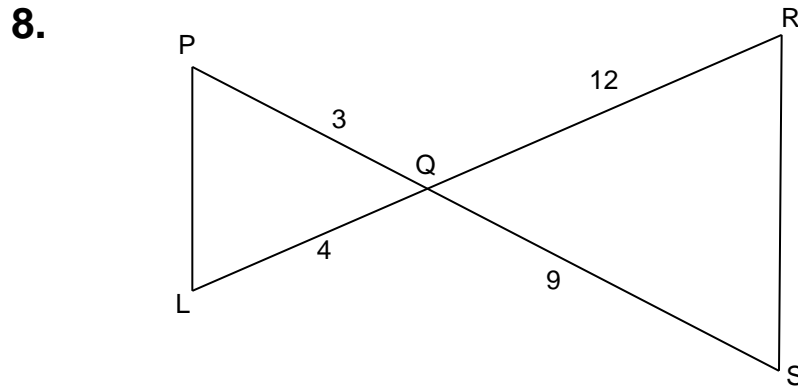
Δ _____ \sim Δ _____



YES or NO

HOW?

Δ _____ \sim Δ _____



YES or NO

HOW?

Δ _____ \sim Δ _____

EXAMPLES Are the two triangles similar, and if so what is the common ratio?

9. The measures of the sides of ΔABC are 4, 5, & 7. The measures of ΔXYZ are 16, 20, & 28.

10. ΔPQR has sides 3, 5, & 6. ΔSTU has sides 2.5, 2, & 3.