5 ways for ≅.

Triangle Similarity Guided Notes

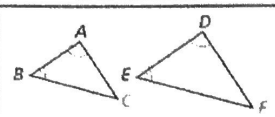
3 ways for Similarity ~.

Triangle can be proved congruent by SAS, SSS, AAS, ASA, and HL.

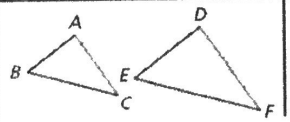
Triangles can be proved Similar (~) using the following Theorems:

* ∠'s ≅
* Sides proportional.

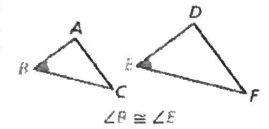
Postulate 7-3-1 Angle-Angle (AA) Similarity

POSTULATE	HYPOTHESIS	CONCLUSION
If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar.		△ABC ~ △DEF

Theorem 7-3-2 Side-Side-Side (SSS) Similarity

THEOREM	HYPOTHESIS	CONCLUSION
If the three sides of one triangle are proportional to the three corresponding sides of another triangle, then the triangles are similar.		△ABC ~ △DEF

Theorem 7-3-3 Side-Angle-Side (SAS) Similarity

THEOREM	HYPOTHESIS	CONCLUSION
If two sides of one triangle are proportional to two sides of another triangle and their included angles are congruent, then the triangles are similar.	 ∠B ≅ ∠E	△ABC ~ △DEF

* always check to make sure sides are proportional.

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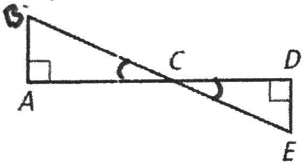
1. Explain why the triangles are similar and write a similarity statement.

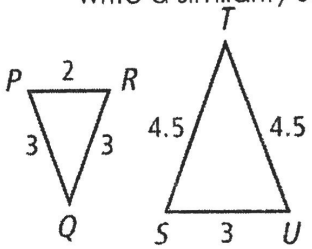


△BAC~△EDC by AA~

. (2 ∠'s are ≅)

. mark vertical ∠'s.

2. Explain why the triangles are similar and write a similarity statement.



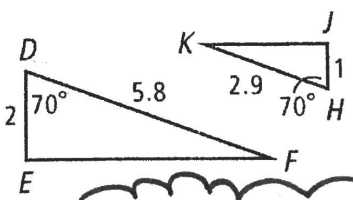
* Show work to see if sides are proportional.

△PRQ~△SUT by SSS.

$\frac{3}{4.5} = \frac{3}{4.5} = \frac{2}{3}$

$\frac{2}{3} = \frac{2}{3} = \frac{2}{3}$ ✓

3. Explain why the triangles are similar and write a similarity statement.



. We have 1 set of included ∠'s ≅. (70°)

. Are the two sides proportional? yes

$\frac{2}{5.8} = \frac{1}{2.9} \Rightarrow \frac{1}{2.9} = \frac{1}{2.9}$ ✓

△DEF ~ △HJK by SAS