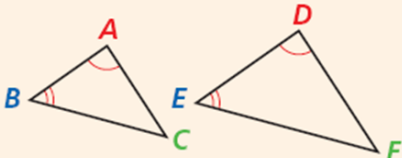


## Objectives

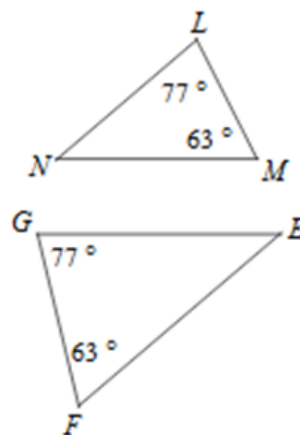
Prove certain triangles are similar by using AA, SSS, and SAS.

Use triangle similarity to solve problems.

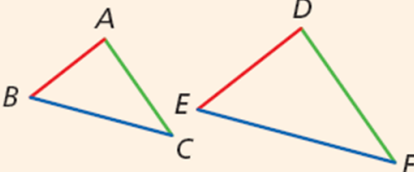
### Postulate 7-3-1 Angle-Angle (AA) Similarity

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

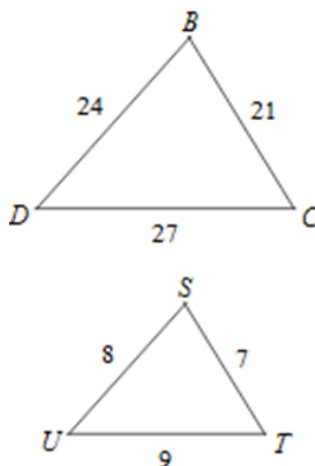
Example



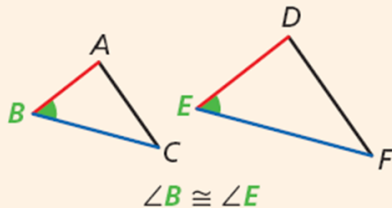
**Theorem 7-3-2** Side-Side-Side (SSS) Similarity

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.		$\triangle ABC \sim \triangle DEF$

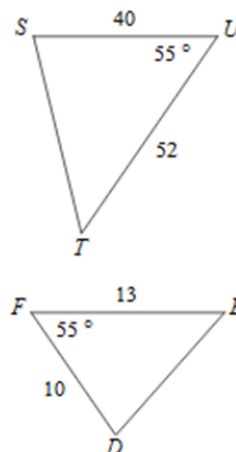
Example



**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.		$\triangle ABC \sim \triangle DEF$

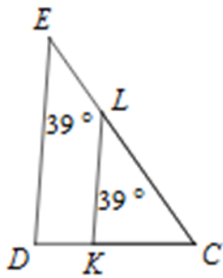
Example



### Example 1

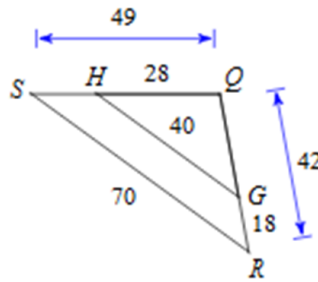
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

a.



$\triangle CDE \sim$  \_\_\_\_\_

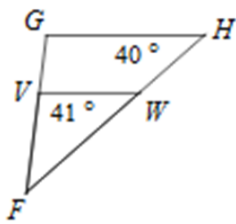
b.



$\triangle QRS \sim$  \_\_\_\_\_

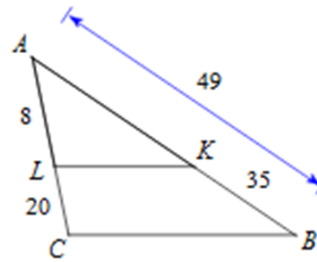
### Example 1 Continued

c.



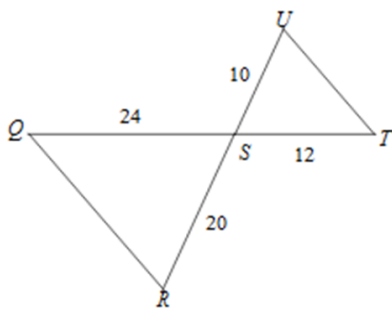
$\triangle FGH \sim$  \_\_\_\_\_

d.



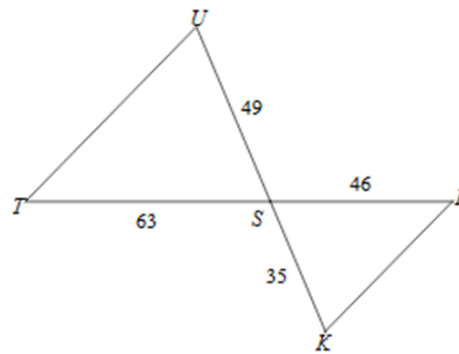
$\triangle ABC \sim$  \_\_\_\_\_

e.



$\triangle SRQ \sim$  \_\_\_\_\_

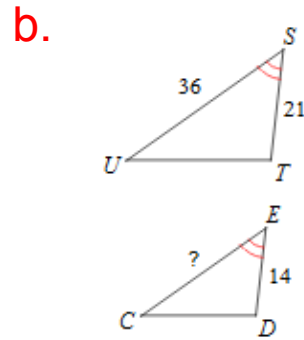
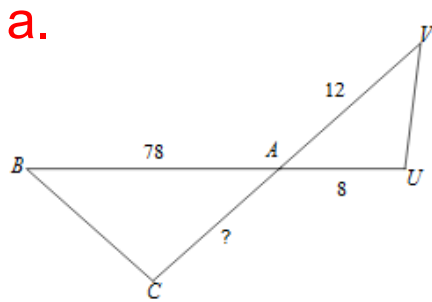
f.



$\triangle STU \sim$  \_\_\_\_\_

### Example 2

Find the missing length. The triangles in each pair are similar.



### Example 2 Continued

