

5.5-5.7 - SSS, ASA, AAS Notes

Maintaining Mathematical Proficiency

Reviewing what you learned in previous grades and lessons

Use the congruent triangles. (Section 5.2)

37. Name the segment in $\triangle DEF$ that is congruent to \overline{AC} .

38. Name the segment in $\triangle ABC$ that is congruent to \overline{EF} .

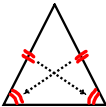
39. Name the angle in $\triangle DEF$ that is congruent to $\angle B$.

40. Name the angle in $\triangle ABC$ that is congruent to $\angle F$.

Triangle Theorems

Theorem: If two sides of a triangle are congruent, then the angles opposite them are congruent.

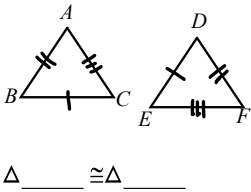
Theorem: If two angles of a triangle are congruent, then the sides opposite them are congruent.



2.) Side-Side-Side (SSS) Congruence

If 3 sides of one triangle are congruent to 3 sides of another triangle, then the triangles are congruent.

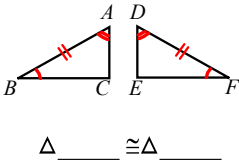
Side Angle
Side Angle
Side Angle



3.) Angle-Side-Angle (ASA) Congruence

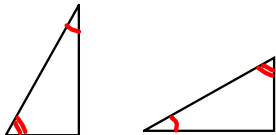
If 2 angles and the included side of one triangle are congruent to 2 angles and the included side of another triangle, then the triangles are congruent.

Side Angle
Side Angle
Side Angle



Third Angles Theorem (Not for proofs!)

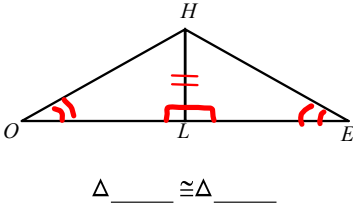
If 2 angles of one triangle are congruent to 2 angles of another triangle, then the third angles are also congruent.



4.) Angle-Angle-Side (AAS) Congruence

If 2 angles and a non-included side of one triangle are congruent to 2 angles and a non-included side of another triangle, then the triangles are congruent.

Side Angle
Side Angle
Side Angle

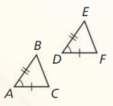
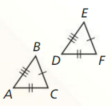
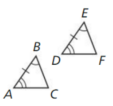
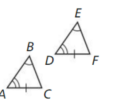


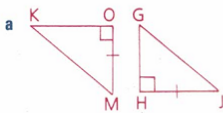
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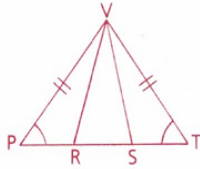
Concept Summary

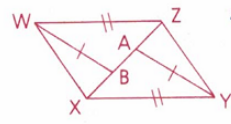
Triangle Congruence Theorems

You have learned five methods for proving that triangles are congruent.

SAS	SSS	ASA	AAS
			
Two sides and the included angle are congruent.	All three sides are congruent.	Two angles and the included side are congruent.	Two angles and a non-included side are congruent.

Triangles	Method	Needed Information
	SAS	
	ASA	
	AAS	

	$\triangle PSV$ and $\triangle TRV$
Method	Needed Information
SAS	
ASA	
AAS	

	$\triangle WBZ$ and $\triangle YAX$
Method	Needed Information
SSS	
SAS	

5.5-5.7 Part 1 Combined (From sections 5.5,5.6)
[5.5 p.266 #7-10,19](#)
[5.6 p.274 #3-6,10,12,15,16,24](#)

5.5-5.7 Part 2 Combined (From sections 5.5-5.7)
[5.5 p.267 #15](#)
[5.6 p.275 #17,33](#)
[5.7 p.282 #23](#)