

Name: Key

4.2, 4.3, AND 4.6 GEOMETRY NOTES

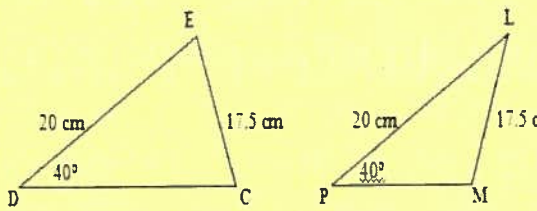
TRIANGLE CONGRUENCE POSTULATES

Directions:

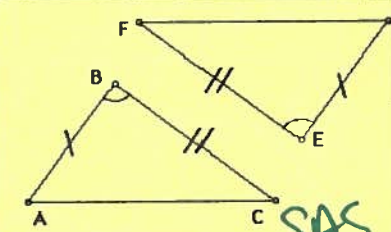
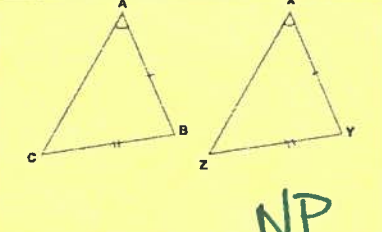
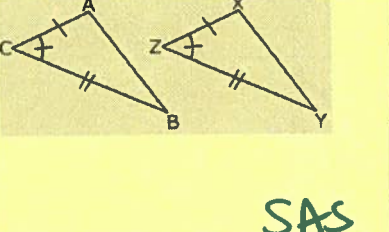
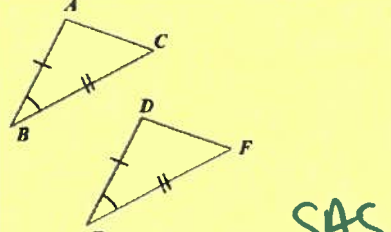
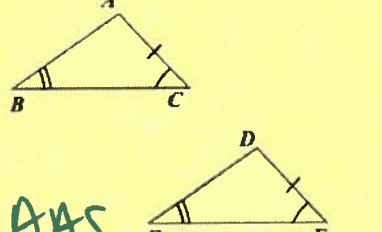
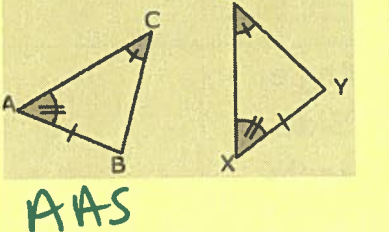
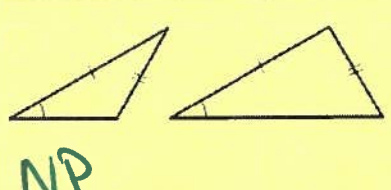
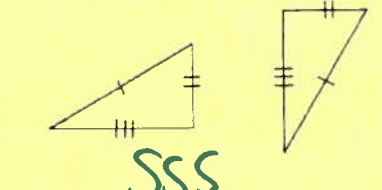
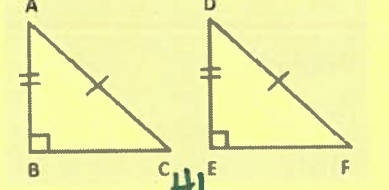
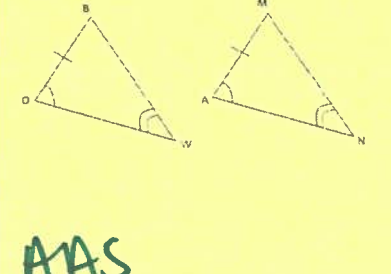
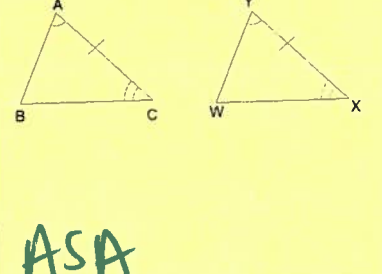
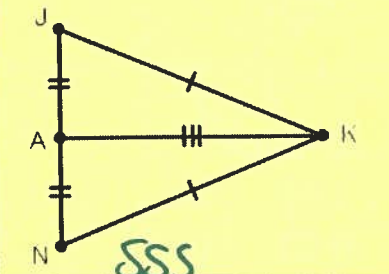
Using pages 205-215 and 235-237, record the description of each postulate, draw the corresponding picture, and be sure to mark the drawing appropriately.

<u>Postulate</u>	<u>Description</u>	<u>Picture</u>
Side Side Side (SSS)	<i>If the three sides of one triangle are congruent to the three sides of another triangle, then the two triangles are congruent.</i>	
Side Angle Side (SAS)		
Angle Side Angle (ASA)		
Angle Angle Side (AAS)		
Hypotenuse Leg (HL)		

Complete

<p>Side Side Angle (SSA)</p> <p>Don't use this one!</p>	<p>This postulate DOES NOT EXIST! Use the picture to explain why.</p> 	<p>$DE \cong PL$ $EC \cong LM$ $LD \cong LP$ $LE \neq LL$ $LC \neq LM$</p> <p><i>all parts are not</i></p> <p>$DC \neq PM$</p>
<p>Angle-Angle Angle (AAA)</p>	<p>This postulate also does not exist. Why not?</p> <p><i>equilateral</i></p> <p><i>You can have two triangles one with sides 2 in one with sides 10 in</i></p>	

Looking at the pairs of triangles, determine if they are congruent. If so, state the postulate that makes them so. *They are not \cong .*

 <p>SAS</p>	 <p>NP</p>	 <p>SAS</p>
 <p>SAS</p>	 <p>AAS</p>	 <p>AAS</p>
 <p>NP</p>	 <p>SSS</p>	 <p>HL</p>
 <p>AAS</p>	 <p>ASA</p>	 <p>SSS</p>

What is different with the last picture than all the rest? Explain.

Shared side AK
Two triangles together
vs. separate

Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\overline{NQ} \cong \overline{PQ}$ $\overline{NY} \cong \overline{PY}$	$\overline{YQ} \cong \overline{YQ}$ Reflexive Prop.	SSS
	$\angle QAB \cong \angle PBA$ $\overline{QA} \cong \overline{PB}$	$\overline{AB} \cong \overline{AB}$ Reflexive Prop.	SAS
	$\overline{AC} \cong \overline{EC}$ $\overline{DC} \cong \overline{BC}$	$\angle ACB \cong \angle ECD$ VAT	SAS
	$\overline{AB} \cong \overline{AC}$ $\angle BDA \cong \angle CDA$	$\overline{AD} \cong \overline{AD}$ Reflexive Prop.	HL

Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\angle P \cong \angle Q$ $\angle PRS \cong \angle QRS$	$\overline{RS} \cong \overline{RS}$ Reflexive Prop.	AAS
	$\overline{DA} \cong \overline{DE}$ $\overline{AT} \cong \overline{ET}$	$\overline{DT} \cong \overline{DT}$ Reflexive Prop.	SSS
	$\angle BAD \cong \angle CAD$ $\angle BDA \cong \angle CDA$	$\overline{AD} \cong \overline{AD}$ Reflexive Prop.	ASA
	None	$\angle PON \cong \angle MOL \rightarrow \text{VAT}$ $\angle LNO \cong \angle LLO \rightarrow \text{AIA}$ $\angle P \cong \angle M \rightarrow \text{AIA}$	NP.

Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\overline{XY} \cong \overline{ZV}$	$\angle XWY \cong \angle ZWV \rightarrow \text{VAT}$ $\angle Z \cong \angle Y \rightarrow \text{AIA}$	AAS
<p>E is the Midpoint of both BD and CA</p>	NONE	$\angle BEA \cong \angle DEC \rightarrow \text{VAT}$ $\overline{AE} \cong \overline{EC} \rightarrow \text{Definition of md.pt.}$ $\overline{BE} \cong \overline{DE} \rightarrow$	SAS
<p>CA = CB</p>	$\overline{CA} \cong \overline{CB}$ $\overline{AP} \cong \overline{BP}$ $\angle APC \cong \angle BPC$	N/A $\overline{CP} \cong \overline{CP} \rightarrow \text{Reflexive Prop.}$	SAS HL
	$\angle Q \cong \angle R$ $\overline{QP} \cong \overline{RP}$	$\overline{PS} \cong \overline{PS}$ Reflexive Prop.	NP.

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