

AD

Name: _____

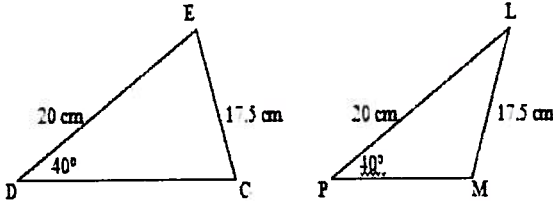
4.2, 4.3, AND 4.6 GEOMETRY NOTES

TRIANGLE CONGRUENCE POSTULATES

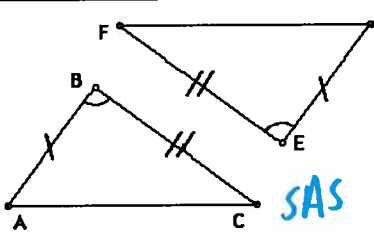
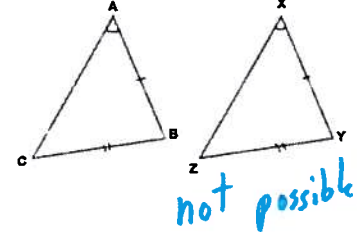
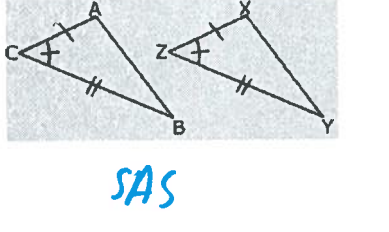
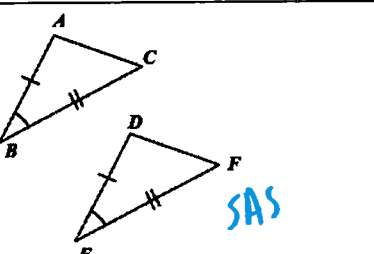
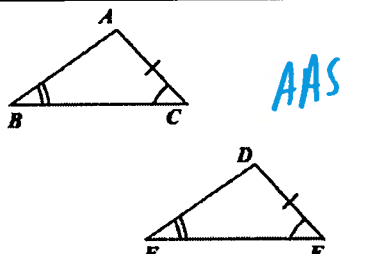
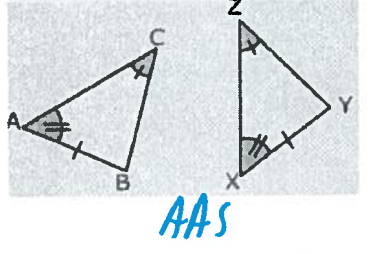
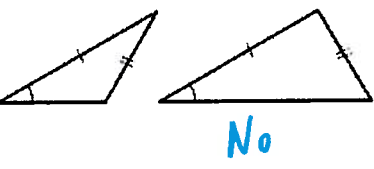
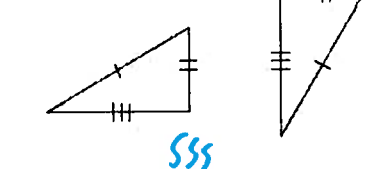
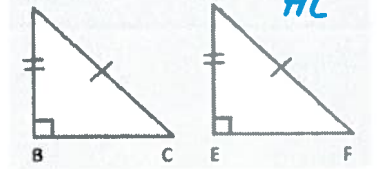
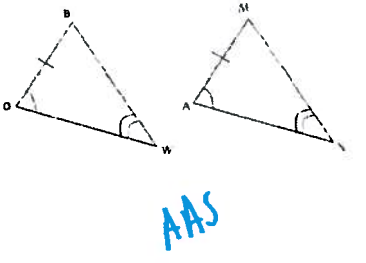
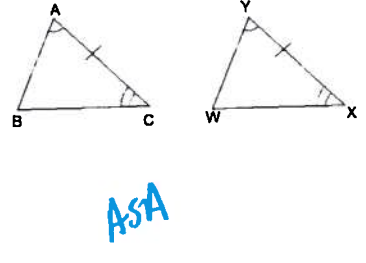
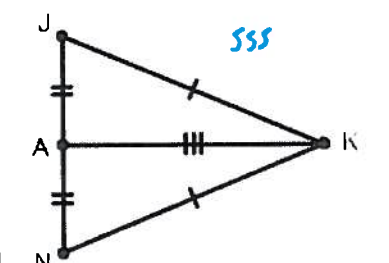
Directions:

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)		

<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>Angle-Angle Angle (AAA)</p>	<p>This postulate also does not exist. Why not?</p>

Looking at the pairs of triangles, determine if they are congruent.
If so, state the postulate that makes them so.

 <p><i>SAS</i></p>	 <p><i>not possible</i></p>	 <p><i>SAS</i></p>
 <p><i>SAS</i></p>	 <p><i>AAS</i></p>	 <p><i>AAS</i></p>
 <p><i>No</i></p>	 <p><i>SSS</i></p>	 <p><i>HL</i></p>
 <p><i>AAS</i></p>	 <p><i>ASA</i></p>	 <p><i>SSS</i></p>

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

$\overline{AK} \cong \overline{AK}$ is reflexive.
rest ~~are~~ do not share sides

reflexive
vertical angles
midpoint
angle bisector

Side
or
Angle Congruencies

Reasons
why

SSS
SAS
AAS
ASA
HL
not possible

Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\overline{NQ} \cong \overline{PQ}$ $\overline{RQ} \cong \overline{SQ}$ $\overline{YQ} \cong \overline{YQ}$	given given reflexive property	SSS
	$\overline{AQ} \cong \overline{BP}$ $\angle QAB \cong \angle QPB$ $\overline{AB} \cong \overline{AB}$	given given reflexive property	SAS
	$\overline{AC} \cong \overline{EC}$ $\overline{BC} \cong \overline{DC}$ $\angle ACB \cong \angle ECD$	given given vertical angles	SAS
	$\overline{AB} \cong \overline{AC}$ $\overline{AD} \cong \overline{AD}$ $\angle ADB \cong \angle ADC$	given reflexive property all right angles are congruent	HL

vertical



Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\angle P \cong \angle Q$ $\angle PRS \cong \angle QRS$ $\overline{RS} \cong \overline{RS}$	given given reflexive property	AAS
	$\overline{AT} \cong \overline{ET}$ $\overline{DA} \cong \overline{DE}$ $\overline{DT} \cong \overline{DT}$	given given reflexive property	SSS
	$\angle BAD \cong \angle CAD$ $\angle AOB \cong \angle AOC$ $\overline{AD} \cong \overline{AD}$	given right angles are congruent reflexive property	ASA
	$\angle LOM \cong \angle NOP$ $\angle N \cong \angle L$ $\angle P \cong \angle M$	Vertical Angles AIA AIA	AAA so Not possible to prove triangle congruence

Drawing	Given Congruencies	Justify Additional Congruencies	Postulate
	$\overline{XY} \cong \overline{ZV}$ $\angle X \cong \angle Z$ $\angle ZWV \cong \angle YWX$	given AIA Vertical angles	AAS
<p><i>E is the Midpoint of both BD and CA</i></p>	$\angle BEA \cong \angle DEC$ $\overline{BE} \cong \overline{DE}$ $\overline{AE} \cong \overline{CE}$	Vertical angles def. of midpoint w/ E def. of midpoint w/ E	SAS
<p>$CA = CB$</p>	$\overline{AP} \cong \overline{BP}$ $\overline{CP} \cong \overline{CP}$ $\angle CPA \cong \angle CPB$	given reflexive property all right angles are congruent	SAS
	$\angle Q \cong \angle R$ $\overline{PQ} \cong \overline{PR}$ $\overline{PS} \cong \overline{PS}$	given given reflexive property	SSA not possible

