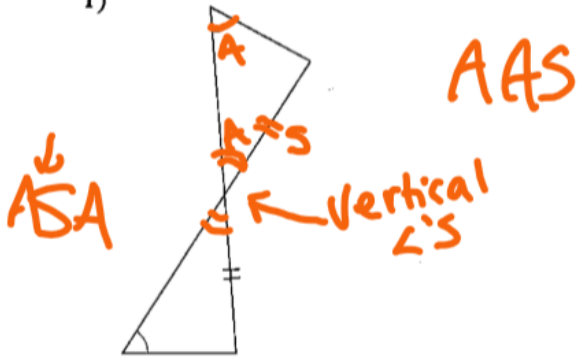


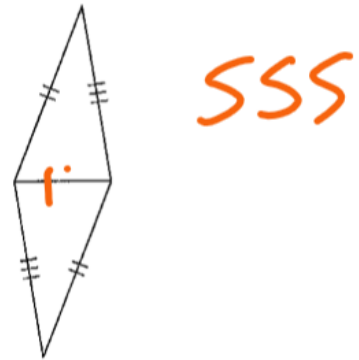
Triangle Congruence: SSS, SAS, ASA, AAS, HL

Determine if the two triangles are congruent. If they are, state how you know.

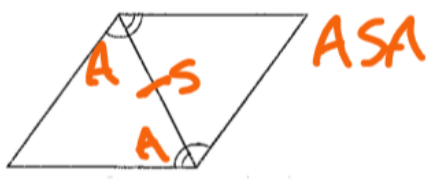
1)



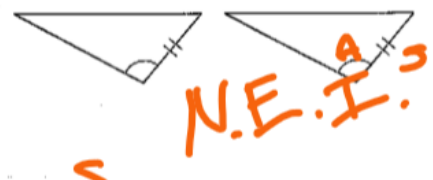
2)



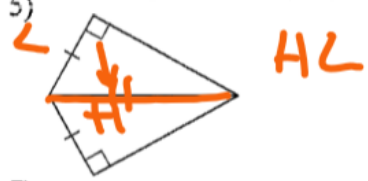
3)



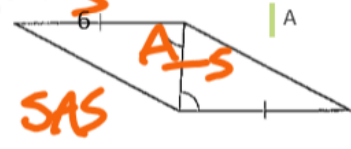
4)



5)



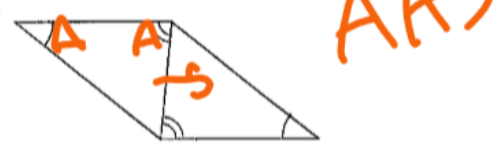
6)



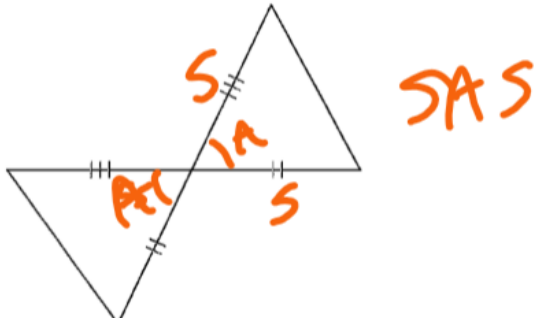
7)



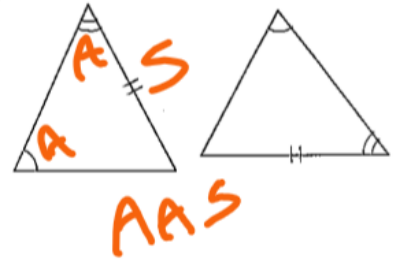
8)



9)



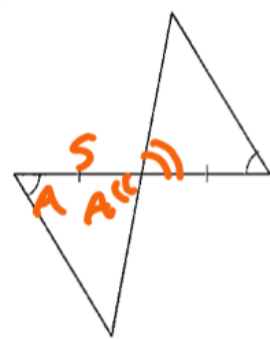
10)



11)

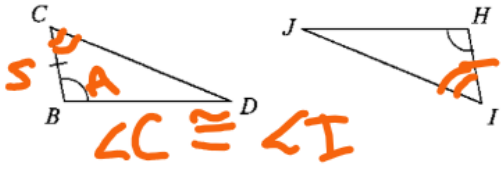


12)



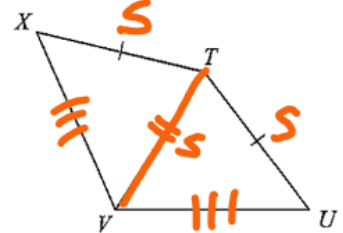
State what additional information is required in order to know that the triangles are congruent for the reason given.

13) ~~ASA~~

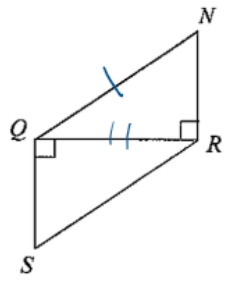


14) ~~SS~~

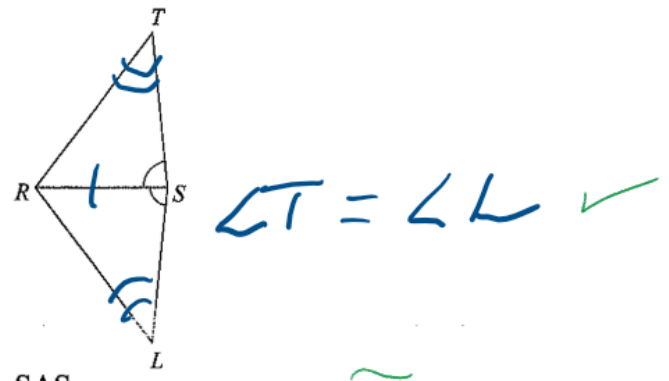
$\overline{XV} \cong \overline{UV}$



15) HL

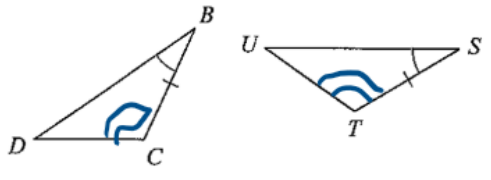


16) AAS



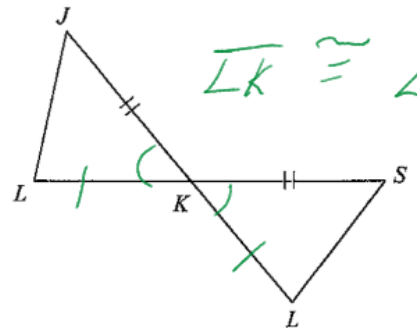
17) ASA

$\angle C \cong \angle T$



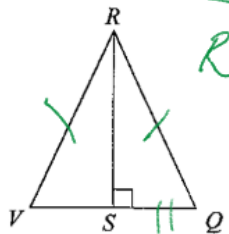
18) SAS

$\angle K \cong \angle K$



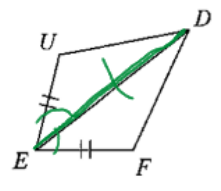
19) HL

$\overline{RV} \cong \overline{RQ}$



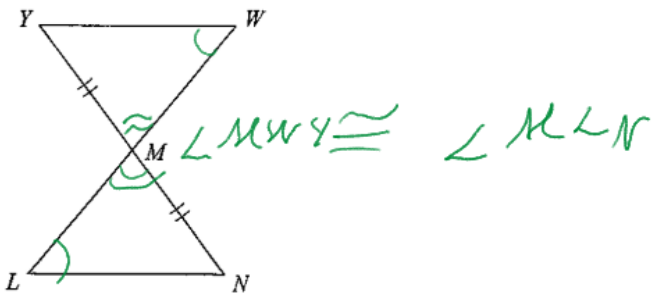
20) SAS

$\angle FED \cong \angle UED$

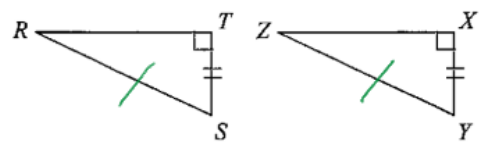


21) AAS

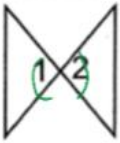
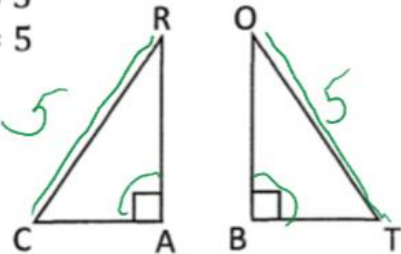
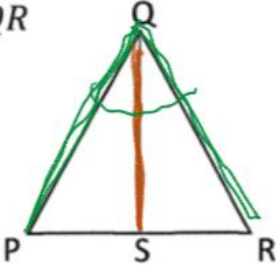
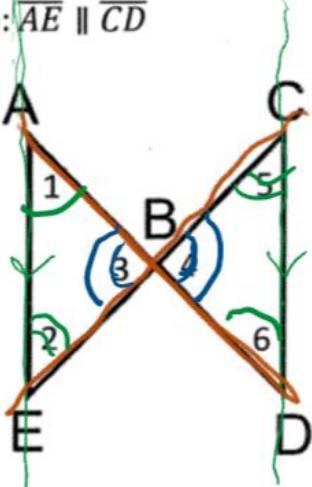
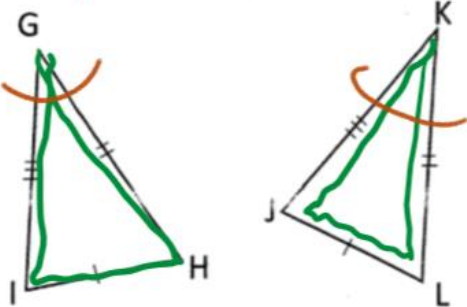
$\overline{RS} \cong \overline{ZY}$



22) HL



PROOFS: JUSTIFY YOUR STATEMENTS WITH REASONS

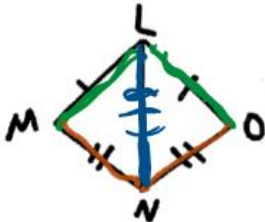
Given	Statement	Reason
	$\angle 1 \cong \angle 2$	Vertical \angle s
Given: $m\overline{CR} = 5$ $m\overline{TO} = 5$ 	$\angle A \cong \angle B$	Right $\angle \cong$ *
	$\overline{CR} \cong \overline{TO}$	Definition of \cong *
Given: \overline{QS} bisects $\angle PQR$ 	$\angle PQS \cong \angle RQS$	Definition of Bisector *
	$\overline{QS} \cong \overline{QS}$	Reflexive Prop.
Given: $\overline{AE} \parallel \overline{CD}$ 	$\angle 1 \cong \angle 6$	Alt. Int. \angle s
	$\angle 3 \cong \angle 4$	Vertical \angle s
	$\angle 2 \cong \angle 5$	Alt. Int. \angle s
	$\triangle GHI \cong \triangle KLI$	SSS
	$\angle G \cong \angle K$	Corresponding Parts of Congruent Δ s → Congruent

CPCTC

Name: _____ Date: _____

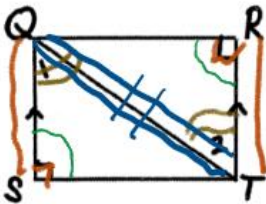
Matching: Use the choices listed at the bottom in the box for problems #1 – 4

Problem 1:



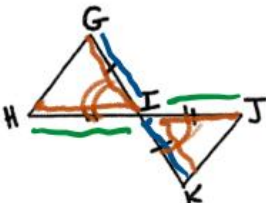
Statement	Reason
1. $\overline{LM} \cong \overline{LO}$	1. Given
2. $\overline{MN} \cong \overline{ON}$	2. Given
3. $\overline{LN} \cong \overline{LN}$	3. Reflexive Prop.
4. $\triangle LMN \cong \triangle LON$	4. SSS

Problem 2:



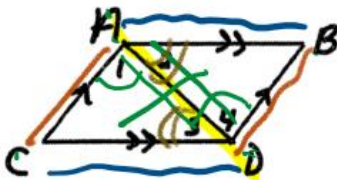
Statement	Reason
1. $\overline{QS} \parallel \overline{RT}$	1. Given
2. $\angle R$ and $\angle S$ are right angles	2. Given
3. $\angle R \cong \angle S$	3. Def. Rt. $\angle \cong$
4. $\angle 1 \cong \angle 2$	4. Alt. Int. $\angle s$
5. $\overline{QT} \cong \overline{TQ}$	5. Reflexive Prop.
6. $\triangle QST \cong \triangle TRQ$	6. AAS

Problem 3:



Statement	Reason
1. $\overline{GI} \cong \overline{KI}$	1. Given
2. $\overline{HI} \cong \overline{JI}$	2. Given
3. $\angle GIH \cong \angle KIJ$	3. Vertical $\angle s$
4. $\triangle GIH \cong \triangle KIJ$	4. SAS

Problem 4:



Statement	Reason
1. $\overline{AC} \parallel \overline{BD}, \overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle 1 \cong \angle 4, \angle 2 \cong \angle 3$	2. Alt Int. $\angle s$
3. $\overline{AD} \cong \overline{DA}$	3. Reflexive Prop.
4. $\triangle ADC \cong \triangle DAB$	4. ASA

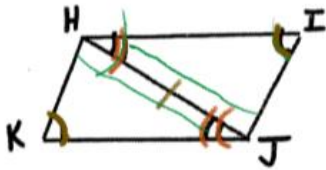
Choices for problems #1 – 4 (some will be used more than once):

- AAS
- ASA
- Alternate Interior Angles are \cong
- Given
- Reflexive Property
- SAS
- SSS
- Vertical Angles are \cong

Geometry
Fill in the blank proofs:

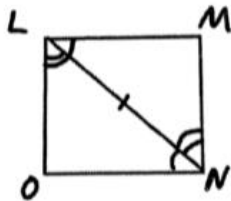
Practice with Proving Triangles Congruent

Problem 5:



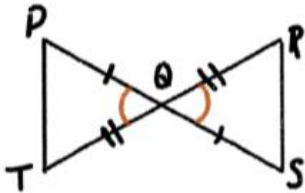
Statement	Reason
1. $\angle I \cong \angle K$	1. Given
2. $\angle IHJ \cong \angle KJH$	2. Given
3. $\overline{HJ} \cong \overline{JH}$	3. Reflexive Property
4. $\Delta HJK \cong \Delta JHI$	4. AAS

Problem 6:



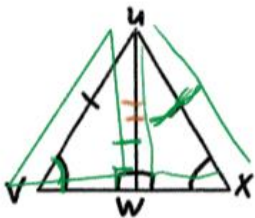
Statement	Reason
1. $\angle MLN \cong \angle ONL$	1. Given
2. $\angle OLN \cong \angle MNL$	2. Given
3. $\overline{LN} \cong \overline{NL}$	3. Reflexive Property
4. $\Delta LNO \cong \Delta NLM$	4. ASA

Problem 7:



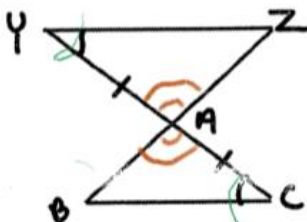
Statement	Reason
1. $\overline{PQ} \cong \overline{SQ}$	1. Given
2. $\overline{QT} \cong \overline{QR}$	2. Given
3. $\angle PQT \cong \angle SQR$	3. Vertical \angle s
4. $\Delta PQT \cong \Delta SQR$	4. SAS

Problem 8:



Statement	Reason
1. $\overline{UV} \cong \overline{UX}$	1. Given
2. $\angle UWV$ and $\angle UWX$ are right angles	2. Given
3. $\angle UWV \cong \angle UWX$	3. Right Angle Congruence
4. $\overline{UW} \cong \overline{UW}$	4. Reflexive Property
5. $\angle V \cong \angle X$	5. Given
6. $\Delta UWV \cong \Delta UWX$	6. AAS or HL

Problem 9:

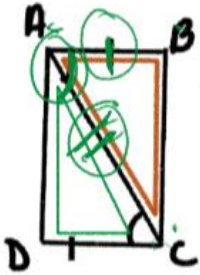


Statement	Reason
1. $\angle Y \cong \angle C$	1. Given
2. $\overline{YA} \cong \overline{CA}$	2. Given
3. $\angle YZA \cong \angle CBA$	3. Vertical Angles are congruent
4. $\Delta YZA \cong \Delta CBA$	4. ASA

Geometry

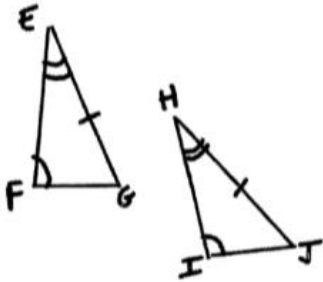
Practice with Proving Triangles Congruent

Problem 10:



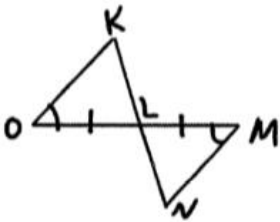
Statement	Reason
1. $\angle BAC \cong \angle DCA$	1. Given
2. $\overline{AB} \cong \overline{DC}$	2. Given
3. $\overline{AC} \cong \overline{CA}$	3. Reflexive Prop.
4. $\triangle ABC \cong \triangle CDA$	4. SAS

Problem 11:



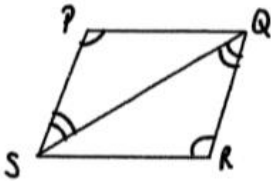
Statement	Reason
1. $\angle F \cong \angle I$	1. Given
2. $\angle E \cong \angle H$	2. Given
3. $\overline{EG} \cong \overline{HJ}$	3.
4. $\triangle EFG \cong \triangle HIJ$	4.

Problem 12:



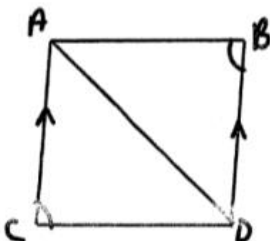
Statement	Reason
1. $\angle O \cong \angle M$	1. Given
2. $\overline{OL} \cong \overline{ML}$	2. Given
3.	3.
4. $\triangle KLO \cong \triangle NLM$	4.
5. $\angle K \cong \angle N$	5. CPCTC

Problem 13:



Statement	Reason
1. $\angle P \cong \angle R$	1. Given
2. $\angle PSQ \cong \angle RQS$	2. Given
3.	3. Reflexive
4. $\triangle PQS \cong \triangle RSQ$	4.

Problem 14:



Statement	Reason
1. $\overline{AC} \parallel \overline{BD}$	1. Given
2. $\angle B \cong \angle C$	2. Given
3. $\angle CAD \cong \angle BDA$	3.
4.	4. Reflexive Property
5. $\triangle ACD \cong \triangle$	5.