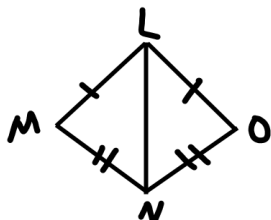


Day 7 – Triangle Proofs

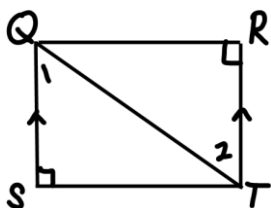
Practice: Use the choices listed at the bottom in the box to complete the proofs for problems #1 – 4.

Problem 1:



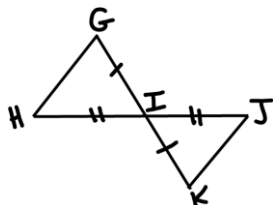
Statement	Reason
1. $\overline{LM} \cong \overline{LO}$	1. Given
2. $\overline{MN} \cong \overline{ON}$	2. Given
3. $\overline{LN} \cong \overline{LN}$	3.
4. $\triangle LMN \cong \triangle LON$	4.

Problem 2:



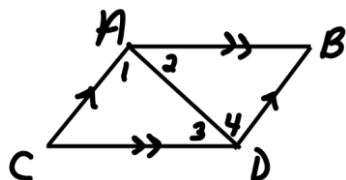
Statement	Reason
1. $\overline{QS} \parallel \overline{RT}$	1. Given
2. $\angle R \cong \angle S$	2. Given
3. $\angle 1 \cong \angle 2$	3.
4. $\overline{QT} \cong \overline{QT}$	4.
5. $\triangle QST \cong \triangle TRQ$	5.

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.
4. $\triangle GIH \cong \triangle KIJ$	4.

Problem 4:



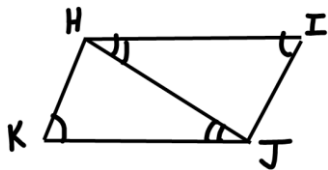
Statement	Reason
1. $\overline{AC} \parallel \overline{BD}, \overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle 1 \cong \angle 4, \angle 2 \cong \angle 3$	2.
3. $\overline{AD} \cong \overline{AD}$	3.
4. $\triangle ADC \cong \triangle DAB$	4.

Reasons Bank for Problems #1 – 4 (some will be used more than once):

AAS \cong Postulate	ASA \cong Postulate
SAS \cong Postulate	SSS \cong Postulate
HL \cong Postulate	
Alternate Interior Angles Theorem	
Reflexive Property	
Vertical Angles Theorem	

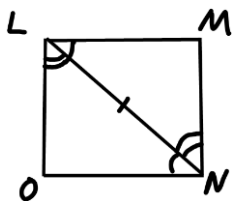
Fill in the missing information to complete the proofs:

Problem 5:



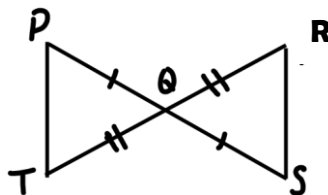
Statement	Reason
1. $\angle I \cong \angle K$	1. Given
2. $\angle IHJ \cong \angle KJH$	2. Given
3. $\overline{HJ} \cong \overline{JH}$	3.
4. $\triangle HJK \cong \triangle JHI$	4.

Problem 6:



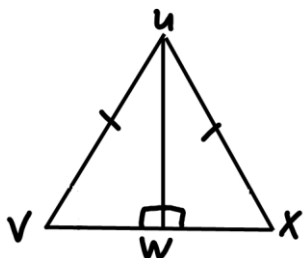
Statement	Reason
1. $\angle MLN \cong \angle ONL$	1. Given
2. $\angle OLN \cong \angle \underline{\hspace{2cm}}$	2. Given
3.	3. Reflexive Property (Given)
4. $\triangle LNO \cong \triangle NLM$	4.

Problem 7:



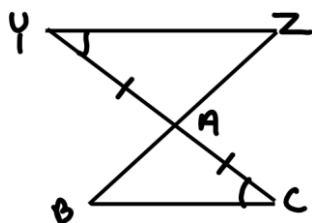
Statement	Reason
1. $\overline{PQ} \cong \overline{RS}$	1. Given
2.	2. Given
3. $\angle PQT \cong \angle RQS$	3.
4. $\triangle PQT \cong \triangle RQS$	4.

Problem 8:



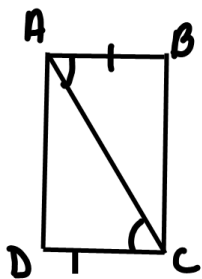
Statement	Reason
1. $\overline{UV} \cong \overline{UX}$	1. Given
2. $\angle VWU \cong \angle XWU$	2. Given
3.	3. Reflexive Property
4. $\triangle UWV \cong \triangle UWX$	4.

Problem 9:



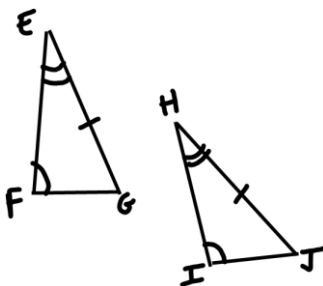
Statement	Reason
1. $\angle Y \cong \angle C$	1.
2.	2. Given
3.	3.
4. $\triangle YZA \cong \triangle CBA$	4.

Problem 10:



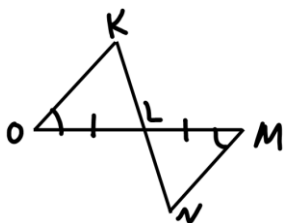
Statement	Reason
1. $\angle BAC \cong \angle DCA$	1. Given
2.	2. Given
3.	3.
4. $\triangle ABC \cong \triangle CDA$	4.

Problem 11:



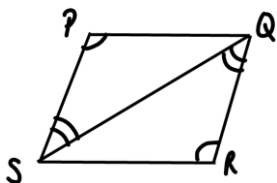
Statement	Reason
1. $\angle F \cong \angle I$	1.
2. $\angle _ \cong \angle _$	2.
3.	3.
4. $\triangle EFG \cong \triangle HIJ$	4.

Problem 12:



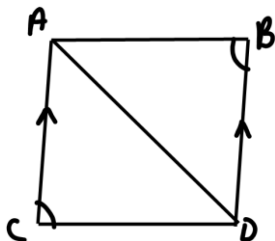
Statement	Reason
1. $\angle _ \cong \angle M$	1. Given
2.	2. Given
3. $\angle KLO \cong \angle _$	3.
4. $\triangle KLO \cong \triangle NLM$	4.
5. $\angle K \cong \angle N$	5. CPCTC

Problem 13:



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

Problem 14:



Statement	Reason
1. $\overline{AC} \parallel \overline{BD}$	1.
2.	2.
3. $\angle CAD \cong \angle BDA$	3.
4.	4.
5. $\triangle ACD \cong \triangle _$	5.