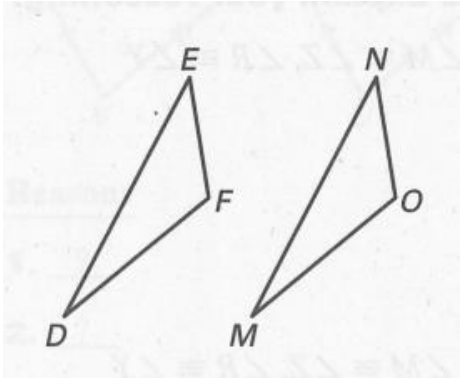
Geometry- Mrs. Tilus Name: _____

Unit 4-Worksheet #5: Prove Triangles Congruent using AAS and ASA

State the third congruence that must be given to prove that $\triangle DEF \cong \triangle MNO$.

1. **Given:** $\overline{DE} \cong \overline{MN}, \angle M \cong \angle D,$ _____ $\cong$ _____

   Use the SAS Congruence Postulate



2. **Given:** $\overline{FE} \cong \overline{ON}, \angle F \cong \angle O,$ _____ $\cong$ _____

   Use the AAS Congruence Postulate

3. **Given:** $\overline{DF} \cong \overline{MO}, \angle F \cong \angle O,$ _____ $\cong$ _____

   Use the ASA Congruence Postulate

4. **Given:** $\overline{EF} \cong \overline{NO}, \overline{FD} \cong \overline{OM},$ _____ $\cong$ _____

   Use the SAS Congruence Postulate

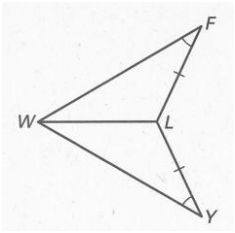
5. **Given:** $\angle F \cong \angle O, \angle M \cong \angle D,$ _____ $\cong$ _____

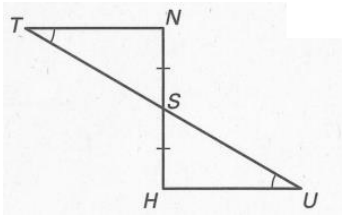
   Use the AAS Congruence Postulate

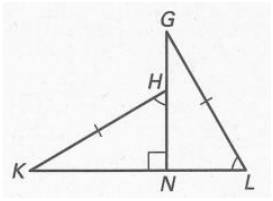
6. **Given:** $\overline{FE} \cong \overline{ON}, \overline{DF} \cong \overline{MO},$ _____ $\cong$ _____

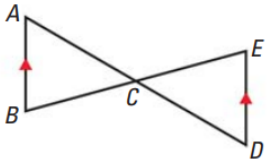
   Use the SSS Congruence Postulate

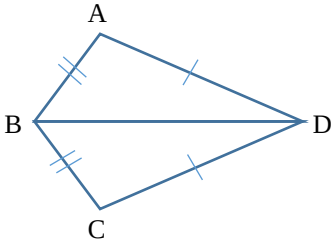
Is it possible to prove that the triangles are congruent? If so, write a congruent statement and state the postulate or theorem you would use.

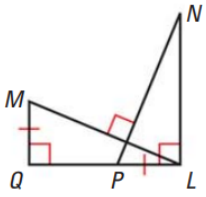
7. 

8. 

9. 

10. 

12. 

13. 

Tell whether you can use the given information to determine whether $\triangle JRM \cong \triangle XYZ$. **Explain your reasoning.** (Draw a set of triangles to help you)

14. $\overline{JM} \cong \overline{XZ}, \angle M \cong \angle Z, \angle R \cong \angle Y$

15. $\overline{JM} \cong \overline{XZ}, \overline{JR} \cong \overline{XY}, \angle J \cong \angle X$

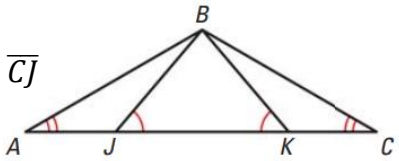
16. $\angle J \cong \angle X \ \angle M \cong \angle Z, \angle R \cong \angle Y$

17. $\overline{JM} \cong \overline{XY}, \angle M \cong \angle Z, \angle R \cong \angle Y$

18. Prove.

Given: $\angle C \cong \angle A, \angle BJK \cong \angle BKJ, \overline{AK} \cong \overline{CJ}$

Prove: $\triangle ABK \cong \triangle CBJ$

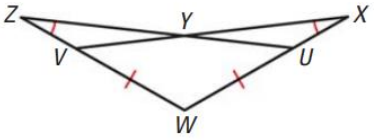


Statement	Reason
1. _____ _____	1. _____
1. _____	
2. _____	2. _____

19. Prove.

Given: $\angle X \cong \angle Z, \overline{VW} \cong \overline{UW}$

Prove: $\triangle XWV \cong \triangle ZWU$

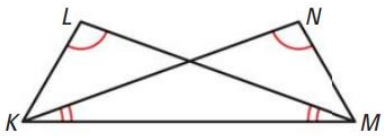


Statement	Reason
1. _____ _____	1. _____
2. _____	2. _____
3. _____	3. _____

20. Prove.

Given: $\angle L \cong \angle N, \angle NKM \cong \angle LMK$

Prove: $\triangle NMK \cong \triangle LKM$



Statement	Reason
1. _____ _____	1. _____
2. _____	2. _____
3. _____	3. _____