

Unit 4- Worksheet #4: Prove Triangles Congruent using SAS and HL

Use the diagram to name the included angle between the given pair of sides.

1. $\overline{XY} \cong \overline{YW}$

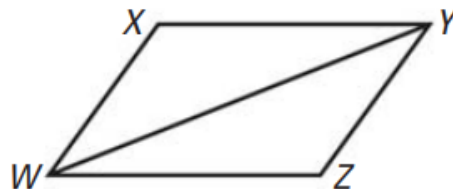
2. $\overline{WZ} \cong \overline{ZY}$

3. $\overline{ZW} \cong \overline{YW}$

4. $\overline{WX} \cong \overline{YX}$

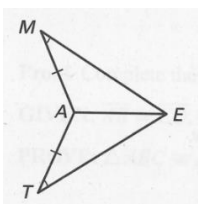
5. $\overline{XY} \cong \overline{YZ}$

6. $\overline{WX} \cong \overline{WZ}$

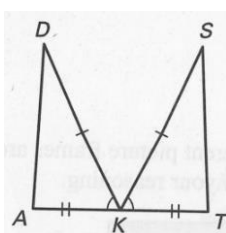


Decide whether enough information is given to prove that the triangles are congruent. If there is enough information, write a congruence statement and state the congruence postulate or theorem you would use.

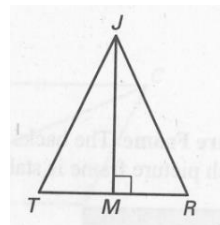
7. $\triangle MAE$ and $\triangle TAE$



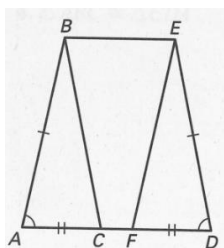
8. $\triangle DKA$ and $\triangle TKS$



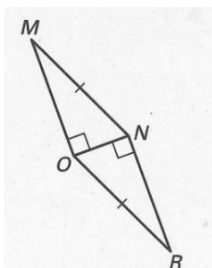
9. $\triangle JRM$ and $\triangle JTM$



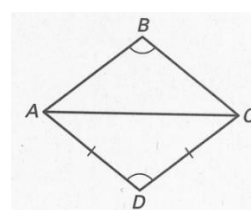
10. $\triangle ABC$ and $\triangle DEF$



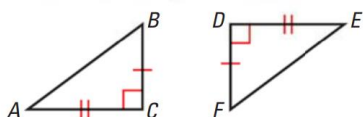
11. $\triangle MNO$ and $\triangle RON$



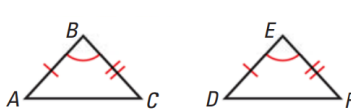
12. $\triangle ABC$ and $\triangle ADC$



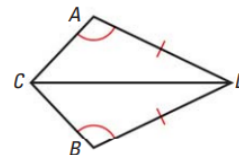
13. $\triangle ABC$ and $\triangle EFD$



14. $\triangle ABC$ and $\triangle DEF$



15. $\triangle CAD$ and $\triangle CBD$



16. Which of the following sets of information **does not** allow you to conclude that $\triangle ABC \cong \triangle DEF$?

A. $\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, $\angle B \cong \angle E$

B. $\overline{AB} \cong \overline{DF}$, $\overline{AC} \cong \overline{DE}$, $\angle C \cong \angle E$

C. $\overline{AC} \cong \overline{DF}$, $\overline{BC} \cong \overline{EF}$, $\overline{BA} \cong \overline{ED}$

D. $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$, $\angle A \cong \angle D$

State the third congruence that must be given to prove that $\triangle JRM \cong \triangle DFB$.

17. **Given:** $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, _____ \cong _____

Use the SSS Congruence Postulate

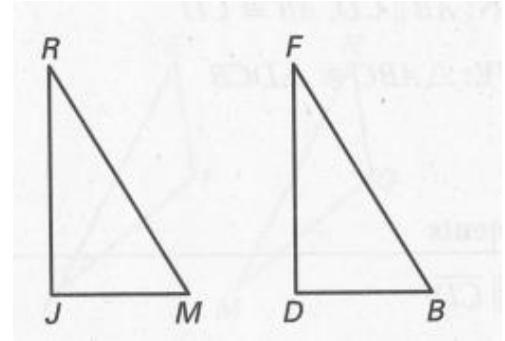
18. **Given:** $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, _____ \cong _____

Use the SAS Congruence Postulate

19. **Given:** $\overline{JR} \cong \overline{DF}$, $\angle J$ is a right angles and $\angle J \cong \angle D$

_____ \cong _____

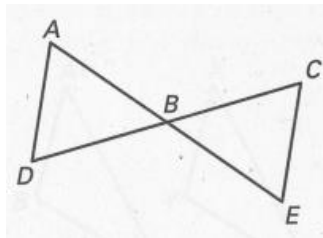
Use the HL Congruence Postulate



20. Prove.

Given: B is the midpoint of \overline{AE}
 B is the midpoint of \overline{CD}

Prove: $\triangle ABD \cong \triangle EBC$

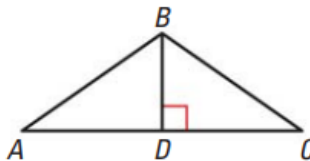


Statement	Reason
1. _____	1. Given
2. _____	2. _____
3. _____	2. Given
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____

21. Prove.

Given: $\overline{AB} \cong \overline{CB}$

Prove: $\triangle ABD \cong \triangle CBD$



Statement	Reason
1. _____	1. Given
2. _____	2. Given
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____