

Name Key

Date _____

Period _____ Geo w/Trig

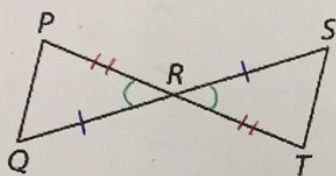
Congruent Triangles

Section 4.4 & 4.5

For #1-14, complete the following:

- Mark the diagram with any additional information
- Determine if the triangles are congruent.
- If yes, state the theorem or postulate that justifies that the triangles are congruent and complete the congruence statement.

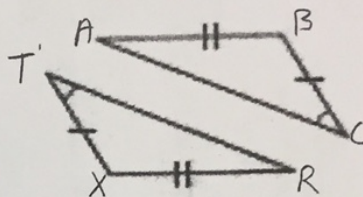
1. **Given:** R is the midpoint of \overline{QS} and \overline{PT} .



Yes
SAS

$$\triangle PQR \cong \triangle TSR$$

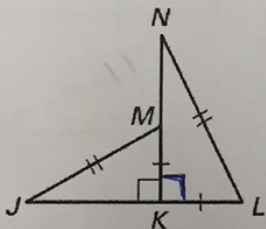
2.



No

$$\triangle ABC \cong \triangle \text{---}$$

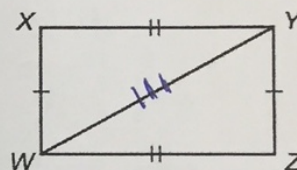
3.



Yes, HL

$$\triangle JMK \cong \triangle NLK$$

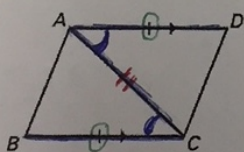
4.



Yes, SSS

$$\triangle WXY \cong \triangle YZW$$

5.

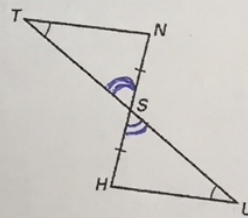


// lines
make \cong
alternate
interior \angle 's

Yes, SAS

$$\triangle ABC \cong \triangle CDA$$

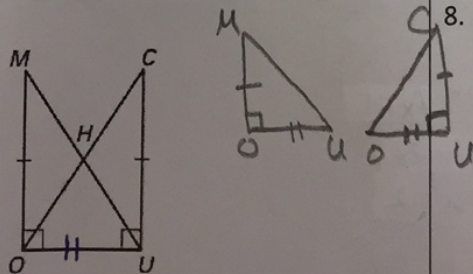
6.



Yes, AAS

$$\triangle TNS \cong \triangle UHS$$

7.

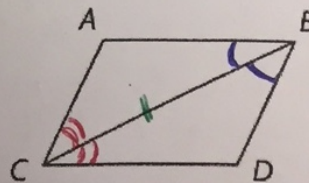


Yes, SAS

$$\triangle MUO \cong \triangle COU$$

8.

Given: \overline{CB} bisects $\angle ABD$ and $\angle ACD$.

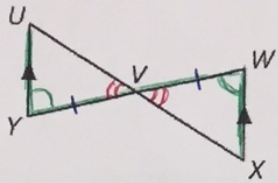


Yes, ASA

$$\triangle ABC \cong \triangle DCB$$

* can also use AAS if you used the other transversal

9. Given: V is the midpoint of \overline{YW}
 $\overline{UY} \parallel \overline{XW}$

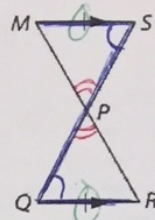


|| lines
make \cong
alternate
interior \angle 's

Yes ASA

$\triangle UYV \cong \triangle XVW$

10. Given: $\overline{MS} \cong \overline{RQ}$, $\overline{MS} \parallel \overline{RQ}$

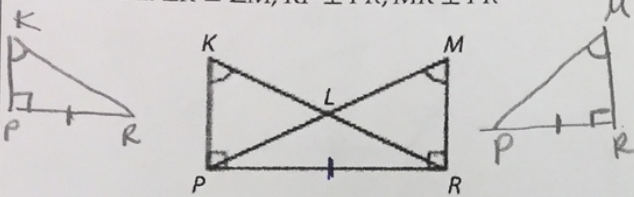


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Yes, AAS

$\triangle MSP \cong \triangle RQP$

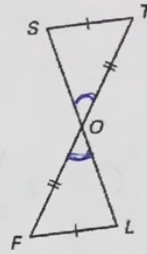
11. Given: $\angle K \cong \angle M$, $\overline{KP} \perp \overline{PR}$, $\overline{MR} \perp \overline{PR}$



Yes, AAS

$\triangle KRP \cong \triangle MPR$

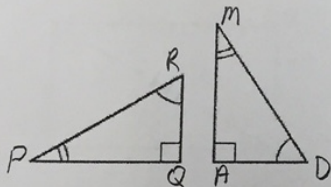
12.



No

$\triangle STO \cong \triangle LFO$

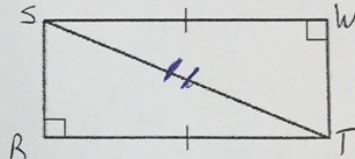
13.



No

$\triangle PQR \cong \triangle MDA$

14.

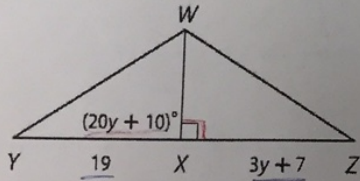


Yes, HL

$\triangle RST \cong \triangle WTS$

For #15-17, solve for the missing variables.

15. $\triangle WXY \cong \triangle WXZ$

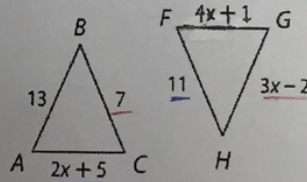


$19 = 3y + 7$
 $12 = 3y$
 $y = 4$

OR

$2y + 10 = 90$
 $2y = 80$
 $y = 4$

16. $\triangle ABC \cong \triangle FGH$

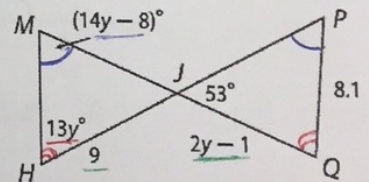


$2x + 5 = 11$
 $2x = 6$
 $x = 3$

OR

$3x - 2 = 7$
 $3x = 9$
 $x = 3$

17. $\triangle MHJ \cong \triangle PQJ$



$14y - 8 = \angle P$???
 try something else
 $13y = \angle Q$???
 try something else

$2y - 1 = 9$
 $2y = 10$
 $y = 5$