

Name:

key

Date:

Period:

HW #5-11: Test Review Packet

1. In $\triangle LMN$, $m\angle L = 8x^\circ$, $m\angle M = (2x + 1)^\circ$, and $m\angle N = (6x - 1)^\circ$. Find $m\angle N$.

$$166.5^\circ$$

2. Position each figure in the coordinate plane and give coordinates to each vertex.

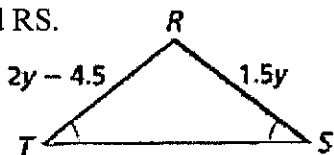
a. A right triangle with leg lengths r and s

$$\begin{aligned} (0, 0) \\ (r, 0) \\ (0, s) \end{aligned}$$

b. a rectangle with length $2p$ and width p

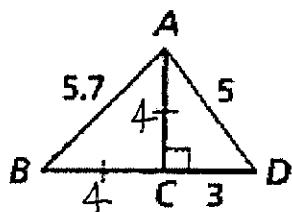
$$\begin{aligned} (0, 0) \\ (2p, 0) \\ (0, p) \\ (2p, p) \end{aligned}$$

3. Find RS.



$$RS = 13.5$$

4. Classify each triangle by its side lengths.



a. $\triangle ACD$

scalene

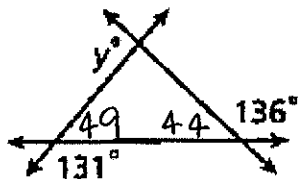
b. $\triangle ABC$

isosceles

c. $\triangle ABD$

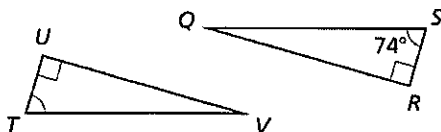
scalene

5. In the figure below, what is the value of y ?



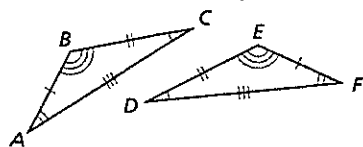
$$y = 93$$

6. Find $m\angle V$.



$$m\angle V = 16^\circ$$

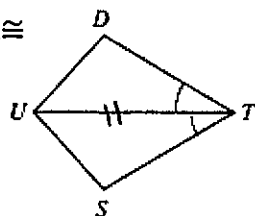
7. Write a congruency statement for the triangles.



$$\triangle ABC \cong \triangle FED$$

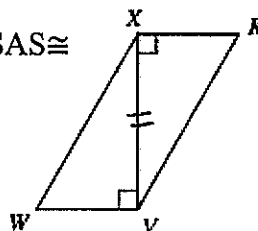
8. State the additional information that is required in order to know that the triangles are congruent for the reason given.

a. ASA $\cong$



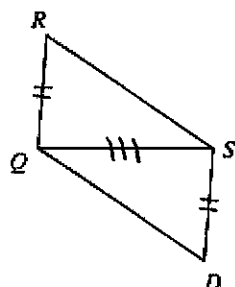
$$\angle DUT \cong \angle SUT$$

b. SAS $\cong$



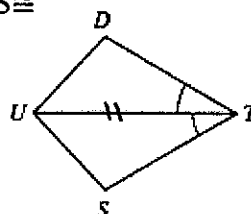
$$\overline{XK} \cong \overline{VW}$$

c. SSS $\cong$



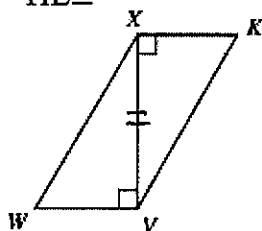
$$\overline{RS} \cong \overline{DS}$$

d. AAS $\cong$



$$\angle D \cong \angle S$$

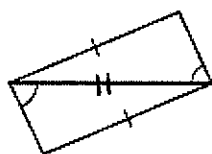
e. HL $\cong$



$$\overline{XW} \cong \overline{VK}$$

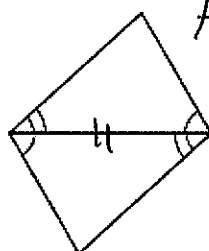
9. Determine whether you can conclude that the triangles are congruent. If you can, state the theorem used and write a congruency statement. If you cannot conclude that the triangles are congruent, say "not enough information."

a.



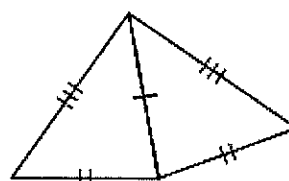
not enough
info

b.



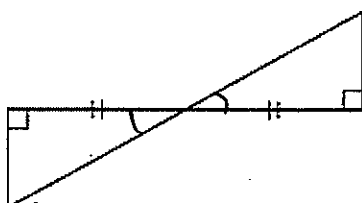
ASA $\cong$

c.



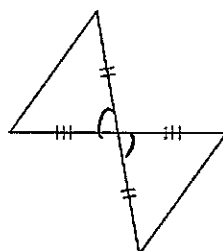
SSS $\cong$

d.



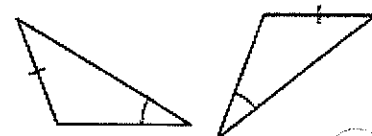
ASA $\cong$

e.



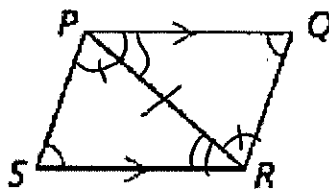
SAS $\cong$

f.



not
enough
info

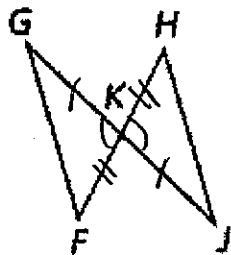
10. Given: $\overline{PQ} \parallel \overline{RS}$ and $\angle S \cong \angle Q$
 Prove: $\overline{PS} \parallel \overline{QR}$



Statements	Reasons
① $\overline{PQ} \parallel \overline{RS}$, $\angle S \cong \angle Q$	① given
② $\angle QPR \cong \angle SRP$	② if $\parallel \rightarrow$ alt. int. $\angle S \cong$
③ $\angle SPR \cong \angle QRP$	③ 3 rd $\angle$ s Thm
④ $\overline{PS} \parallel \overline{QR}$	④ if alt. int. $\angle S \cong \rightarrow \parallel$

① $\overline{PQ} \parallel \overline{RS}$, $\angle S \cong \angle Q$	① given
② $\angle QPR \cong \angle SRP$	② if $\parallel \rightarrow$ alt. int. $\angle S \cong$
③ $\overline{PR} \cong \overline{RP}$	③ reflex. prop. $\cong$
④ $\triangle SRP \cong \triangle QPR$	④ AAS $\cong$ (1, 2, 3)
⑤ $\angle SPR \cong \angle QRP$	⑤ CPCTC
⑥ $\overline{PS} \parallel \overline{QR}$	⑥ if alt. int. $\angle S \cong \rightarrow \parallel$

11. Given: $\overline{GJ}$ bisects $\overline{FH}$ and $\overline{FH}$ bisects $\overline{GJ}$.
 Prove: $\triangle FGK \cong \triangle HJK$



Statements	Reasons
① $\overline{GJ}$ bisects $\overline{FH}$	① given
② $\overline{GK} \cong \overline{JK}$	② def. of a seg. bisector
③ $\overline{FH}$ bisects $\overline{GJ}$	③ given
④ $\overline{KH} \cong \overline{KF}$	④ def. of a seg. bisector
⑤ $\angle GKF \cong \angle HJK$	⑤ vertical $\angle$ s are $\cong$
⑥ $\triangle FGK \cong \triangle HJK$	⑥ SAS $\cong$ (2, 5, 4)