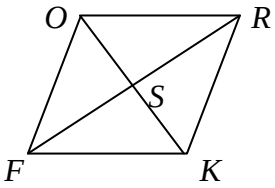
Geometry HW #_____ Name_____
Ch 6 and 5 Review
Worksheet 6R Date_____Per._____Col._____

Given: rhombus *FORK*, with $FR > OK$. Tell whether each statement can be deduced from the given. Write *yes* or *no*.



1. $\overline{FO} \cong \overline{OR}$

2. $\overline{FR} \perp \overline{OK}$

3. $KS < FS$

4. $RS > RK$

Fill in the blank with $>$ or $<$.

5. If $m\angle 1 + m\angle 2 = m\angle 3$, then $m\angle 2$ _____ $m\angle 3$.

6. If $a > b$, $b > c$, and $c = d$, then a _____ d.

7. If $e < f$ and $g = h$, then $e + g$ _____ $f + h$.

8. If $a > b$ then $20 - a$ _____ $20 - b$.

9. Use the conditional below and write its converse, inverse, and contrapositive. Tell whether each statement is *true* or *false*.

statement: If a triangle is isosceles, then it is equilateral. True or False?

converse:

inverse:

contrapositive:

10. Given: All poets are philosophers.

a. Rewrite the given statement in if-then form.

b. Illustrate the given statement with a Venn diagram.

11. Assume that the given conditional is true. What can you conclude by using the given together with each statement? If no conclusion is possible, write "no conclusion".

Given: Diagonals of an isosceles trapezoid are congruent.

a. Quadrilateral *REST* is an isosceles trapezoid.

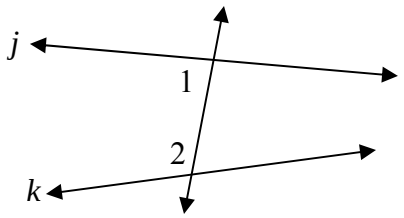
b. In quadrilateral *PLAY*, $\overline{PA} \cong \overline{LY}$.

c. In trapezoid *STAR*, $SA > TR$.

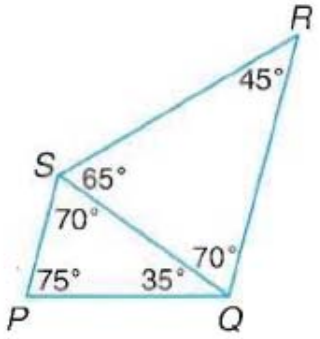
12. Write an indirect proof.

Given: $\angle 1$ and $\angle 2$ are not supplementary.

Prove: $j \nparallel k$



Use the figure below for #13-15. Figure may not be drawn to scale.

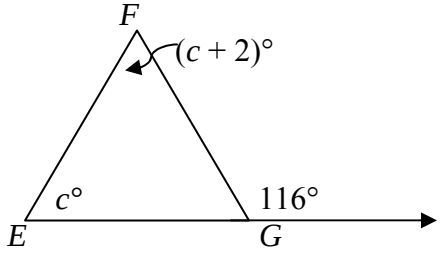


13. Name the longest side in ΔSRQ.

14. Name the longest side in ΔPSQ.

15. Name the longest segment in quadrilateral *PSRQ*.

16. Determine the shortest side of ΔEFG. Figure may not be drawn to scale.



17. Is it possible for a triangle to have side lengths of 10, 11, and 12? Yes or No. Explain your answer.

18. Is it possible for a triangle to have side lengths of 2, 6, and 3? Yes or No. Explain your answer.

19. Two sides of a triangle have lengths of 5 and 8.3. The third side, x, must lie between what two lengths?

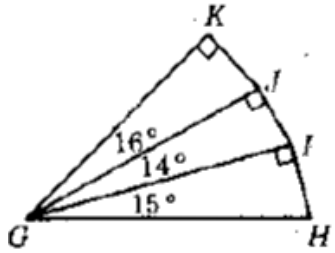
_____ $< x <$ _____

20. Two sides of a triangle have lengths of $k - 1$ and $k + 8$. The third side, x, must lie between what two lengths?

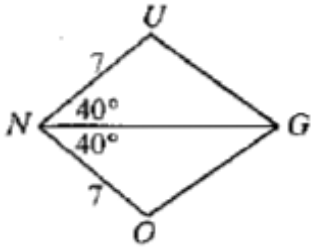
_____ $< x <$ _____

For #21-24, fill in the blank with >, <, or =.

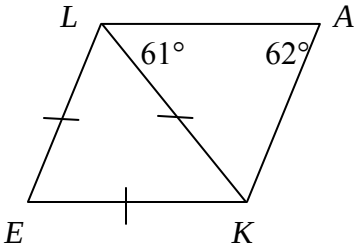
21. KG _____ HG



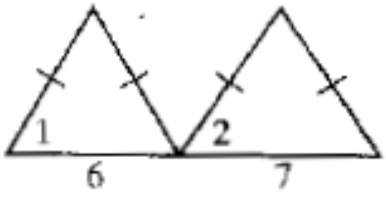
22. UG _____ OG



23. EK_____AK



24. m∠1 _____ m∠2



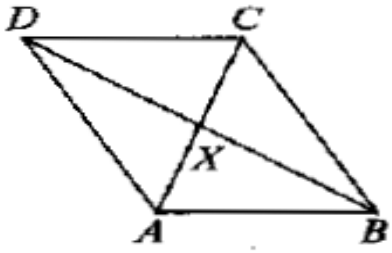
(review) Based on the given information, give the most specific name (parallelogram, rectangle, rhombus, square, or isosceles trapezoid) for quadrilateral $QUAD$. (hint: draw figures)

25. $\overline{QU} \parallel \overline{DA}, \overline{QD} \parallel \overline{UA}, \overline{QD} \perp \overline{DA}$

26. $\overline{QU} \parallel \overline{DA}, \overline{QU} \cong \overline{UA} \cong \overline{DA}$

27. $\overline{QU} \parallel \overline{DA}, \overline{QD} \cong \overline{UA}, m\angle Q = m\angle U = 115$

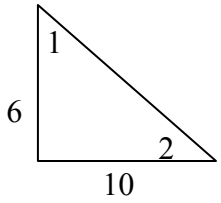
(review) Given: parallelogram *DCBA*; m∠*ABD* = 48, m∠*ADC* = 86.



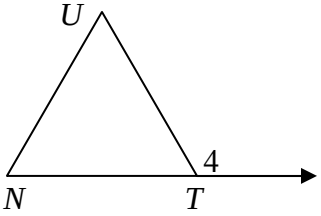
28. m∠*DCB* =_____ 29. m∠*CBD* = _____

30. m∠*BDC* =_____

For #31-34, fill in the blank with <, >, or =. Give a reason (theorem) to support your answer. Figures may not be drawn to scale.

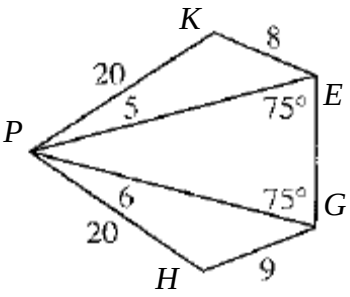
31. 

m∠1 _____ m∠2

32. 

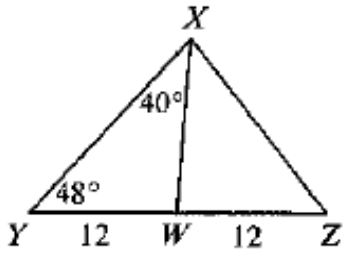
m∠4 _____ m∠*N*

UT _____ *UN* + *NT*

33. 

m∠*KPE* _____m∠*HPG*

*PE*_____*PG*

34. 

*XY*_____*XZ*

*XW*_____ 12