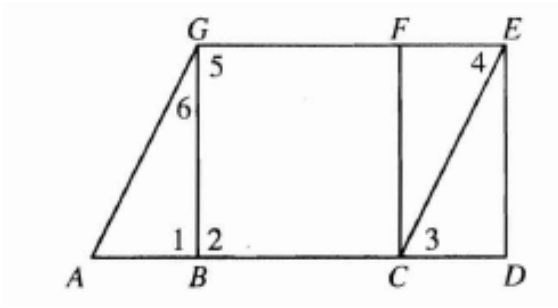
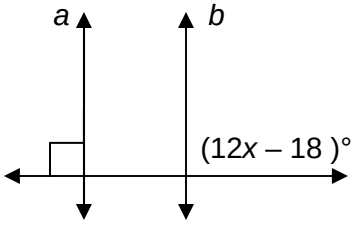
Geometry HW #_____ Name_____
Chapter 3 Review
Handout 3R Date_____Per._____Col._____

Use the given information to name segments that must be parallel. Write out a reason to support your answer.

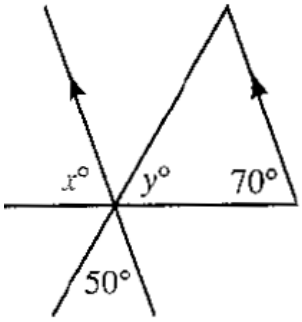


1. $\angle A \cong \angle 3$
2. $\angle 4 \cong \angle 3$
3. $\overline{GB} \parallel \overline{FC}$, $\overline{ED} \parallel \overline{FC}$
4. $m\angle 2 + m\angle 5 = 180$
5. $\overline{GB} \perp \overline{AD}$, $\overline{ED} \perp \overline{AD}$

6. Find x so that $a \parallel b$.

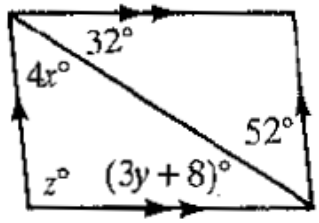


7. Find x and y.

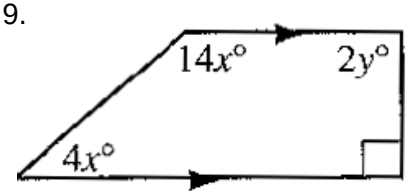


8-10: Find x, y, and z.

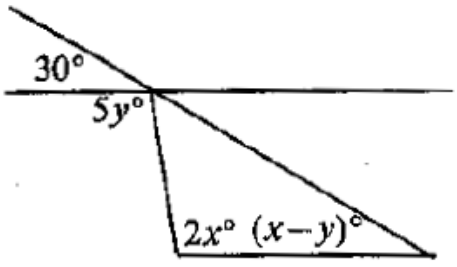
8.



9.



10.



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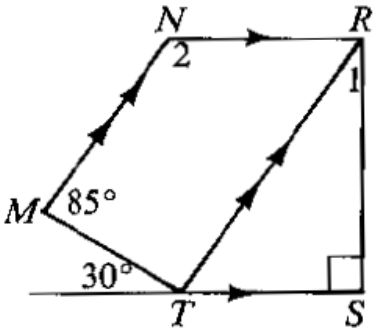
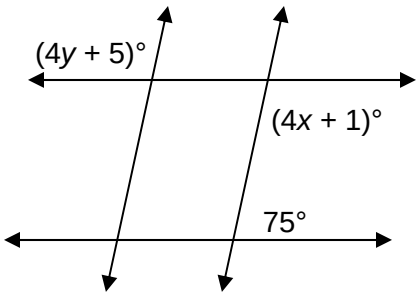
11. Find m∠1 and m∠2.

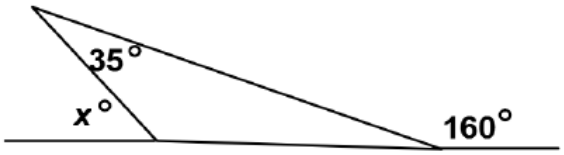


12. Find *x* and *y*.

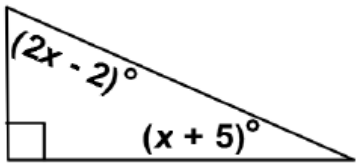


12-14: Find *x.*

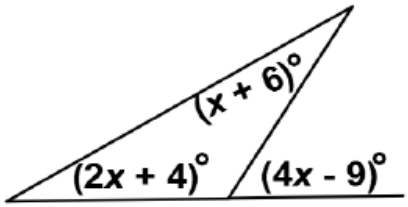
12.



13. .



14.



15-16: Draw the triangle described. Mark any congruent sides.

15. right isosceles triangle *XYZ* with right angle at *X*.

16. acute scalene triangle *RST*

17. Find the sum of the interior angles of a convex 50-gon.

18. Find the measure of each interior angle of a regular 18-gon.

19. Find the measure of each exterior angle of a regular 45-gon.

20. An interior angle of a regular polygon measures 170°.
    a) Find the measure of each exterior angle.

    b) How many sides does the polygon have?

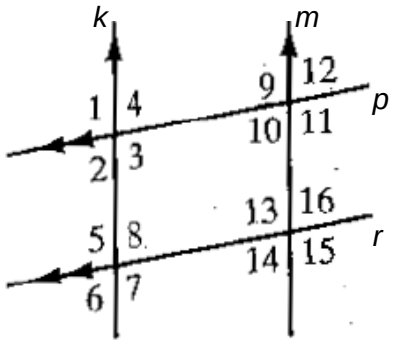
    c) Find the sum of the interior angles.

21. In hexagon TIGERS, m∠S = m∠G = x and m∠T = m∠I = m∠E = m∠R = 2x.
    Find x and m∠E.

22. Complete the pattern: 2, 2, 4, 12, 48, _____.

23. Use deductive reasoning to make a conclusion based on the two true statements below.
    (1) $\angle A \cong \angle B$
    (2) m∠A = 72

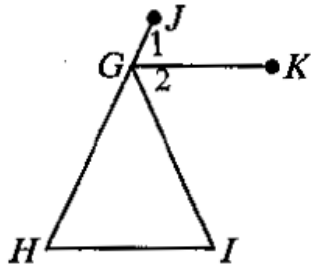
24. Given: $k \parallel m$, $p \parallel r$
    Prove: m∠4 + m∠15 = 180



STATEMENTS	REASONS
1. $k \parallel m$	1.
2. m∠4 + m∠9 = 180	2.
3. $p \parallel r$	3.
4. m∠9 = m∠13	4.
5. m∠4 + m∠13 = 180	5.
6. m∠15 = m∠13	6.
7.	7.

25. Given: $\overline{GK} \parallel \overline{HI}$, $\overrightarrow{GK}$ bisects $\angle JGI$

Prove: $\angle H \cong \angle I$



26. Given: $r \parallel t$, $c \parallel d$, $\angle 1 \cong \angle 8$

Prove: $t \parallel v$