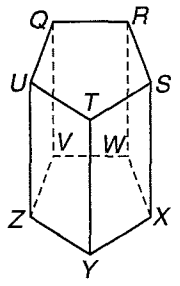
NAME Packet #1 (3.1-3.3) DATE _____ PERIOD ____

3-1 Practice

Parallel Lines and Transversals

For Exercises 1–4, refer to the figure at the right.



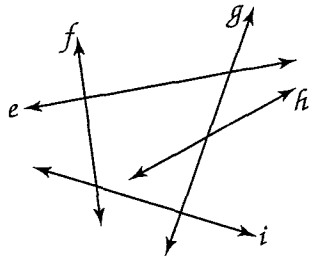
1. Name all planes that intersect plane STX.

2. Name all segments that intersect $\overline{QU}$.

3. Name all segments that are parallel to $\overline{XY}$.

4. Name all segments that are skew to $\overline{VW}$.

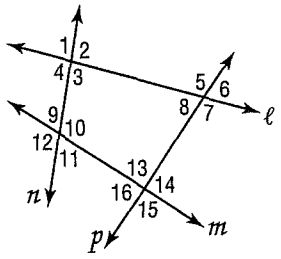
Identify the sets of lines to which each given line is a transversal.



5. e

6. h

Identify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.



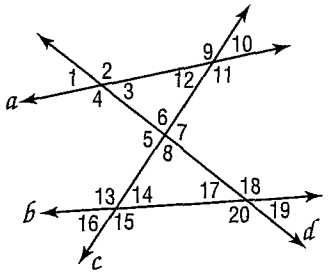
7. $\angle 9$ and $\angle 13$

8. $\angle 6$ and $\angle 16$

9. $\angle 3$ and $\angle 10$

10. $\angle 8$ and $\angle 14$

Name the transversal that forms each pair of angles. Then identify the special name for the angle pair.



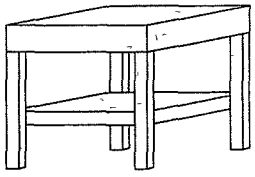
11. $\angle 2$ and $\angle 12$

12. $\angle 6$ and $\angle 18$

13. $\angle 13$ and $\angle 19$

14. $\angle 11$ and $\angle 7$

FURNITURE For Exercises 15–16, refer to the drawing of the end table.



15. Find an example of parallel planes.

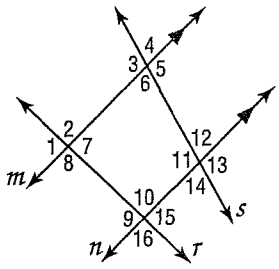
16. Find an example of parallel lines.

NAME _____ DATE _____ PERIOD _____

3-2 Practice

Angles and Parallel Lines

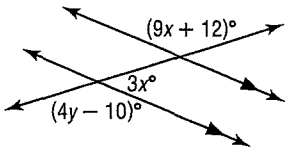
In the figure, $m\angle 2 = 92$ and $m\angle 12 = 74$. Find the measure of each angle.



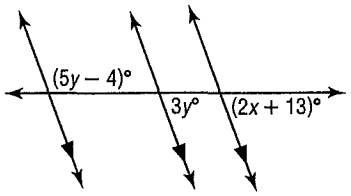
1. $\angle 10$
2. $\angle 8$
3. $\angle 9$
4. $\angle 5$
5. $\angle 11$
6. $\angle 13$

Find x and y in each figure.

7.

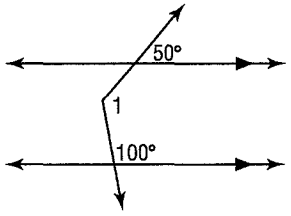


8.

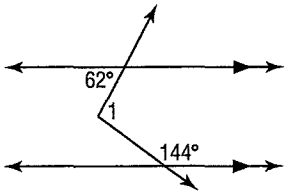


Find $m\angle 1$ in each figure.

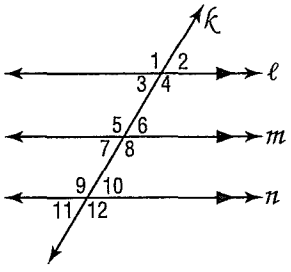
9.



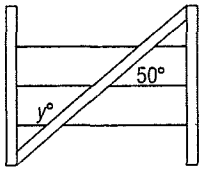
10.



11. **PROOF** Write a paragraph proof of Theorem 3.3.
Given: $\ell \parallel m$, $m \parallel n$
Prove: $\angle 1 \cong \angle 12$



12. **FENCING** A diagonal brace strengthens the wire fence and prevents it from sagging. The brace makes a 50° angle with the wire as shown. Find y.

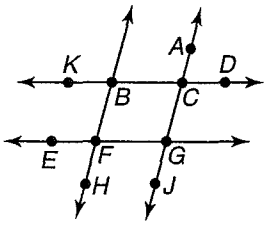


NAME _____ DATE _____ PERIOD ____

3-3 Practice

Proving Lines Parallel

Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.



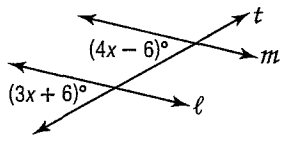
1. $m\angle BCG + m\angle FGC = 180$

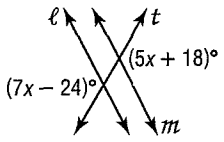
2. $\angle CBF \cong \angle GFH$

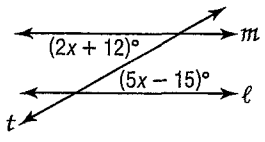
3. $\angle EFB \cong \angle FBC$

4. $\angle ACD \cong \angle KBF$

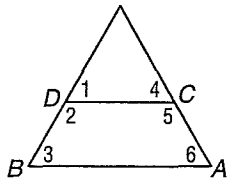
Find x so that $\ell \parallel m$.

5. 

6. 

7. 

8. **PROOF** Write a two-column proof.
Given: $\angle 2$ and $\angle 3$ are supplementary.
Prove: $\overline{AB} \parallel \overline{CD}$



9. **LANDSCAPING** The head gardener at a botanical garden wants to plant rosebushes in parallel rows on either side of an existing footpath. How can the gardener ensure that the rows are parallel?