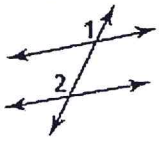
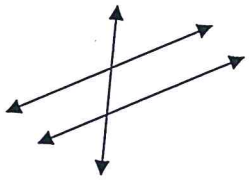
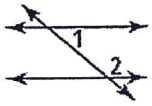
Name _____ Class _____ Date_____

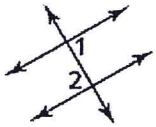
Practice 3-1 Properties of Parallel Lines

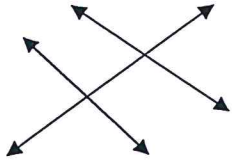
Classify each pair of angles as *alternate interior angles, same-side interior angles, corresponding angles, alternate exterior angles, or same-side exterior angles..*

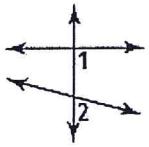
1. 

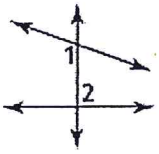
2. 

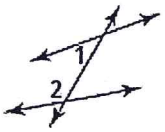
3. 

4. 

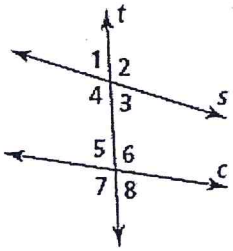
5. 

6. 

7. 

8. 

Use the figure on the right to answer Exercises 7–9.



9. Name all pairs of corresponding angles formed by the transversal *t* and lines *s* and *c*.

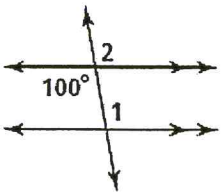
10. Name all pairs of alternate interior angles formed by the transversal *t* and lines *s* and *c*.

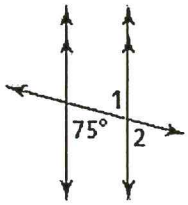
11. Name all pairs of same-side interior angles formed by the transversal *t* and lines *s* and *c*.

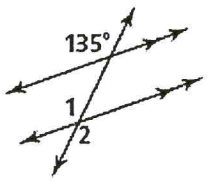
12. Name all pairs of alternate exterior angles formed by the transversal *t* and lines *s* and *c*.

13. Name all pairs of same-side exterior angles formed by the transversal *t* and lines *s* and *c*.

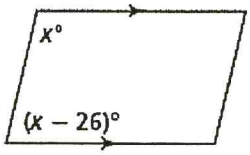
Find $m\angle 1$ and then $m\angle 2$. Justify each answer.

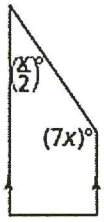
14. 

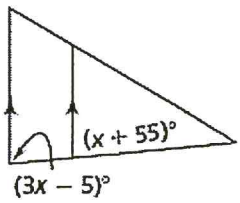
15. 

16. 

Algebra Find the value of x. Then find the measure of each angle.

17. 

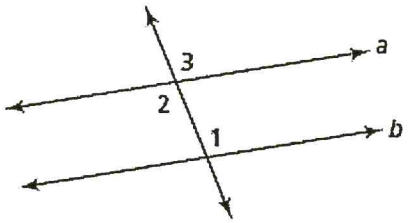
18. 

19. 

20. Proof

Given: $a \parallel b$

Prove: $\angle 3$ and $\angle 4$ are supplementary without using the Same-Side Exterior Angle Theorem

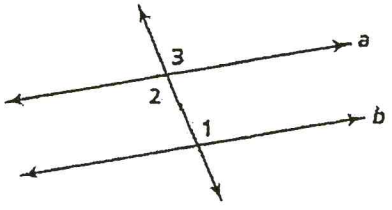


Statements	*Reasons*
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

21. **Developing Proof** Supply the missing reasons in this two-column proof.

Given: $a \parallel b$

Prove: $\angle 1 \cong \angle 3$



Statements	*Reasons*
1. $a \parallel b$	1. Given
2. $\angle 1 \cong \angle 2$	a. ?
3. $\angle 2 \cong \angle 3$	b. ?
4. $\angle 1 \cong \angle 3$	c. ?