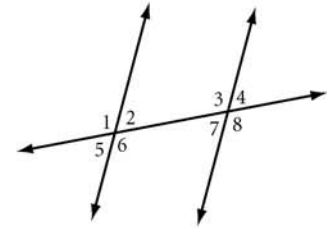


# 4.2 – Discovering Properties of Parallel Lines

For Exercises 1–11, use the figure at right.

For Exercises 1–5, find an example of each term.

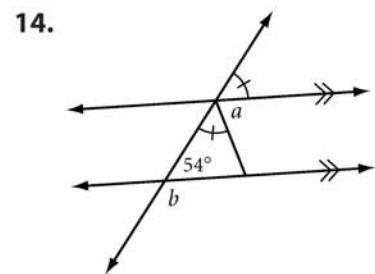
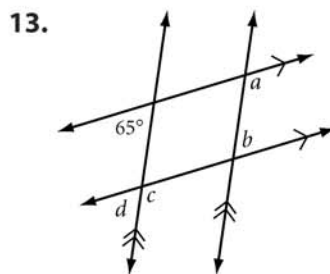
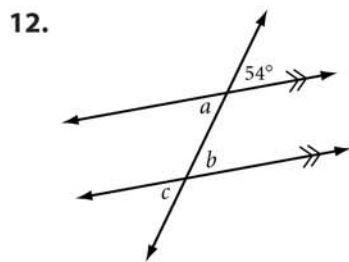
1. Corresponding angles
2. Alternate interior angles
3. Alternate exterior angles
4. Vertical angles
5. Linear pair of angles



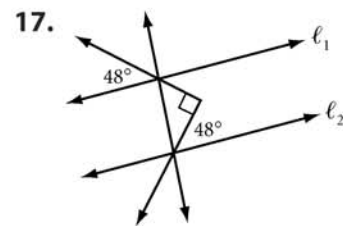
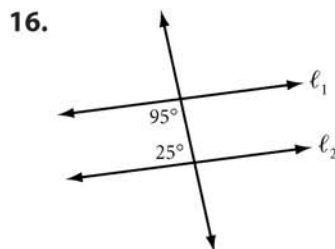
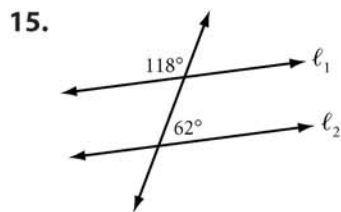
For Exercises 6–11, tell whether each statement is always (A), sometimes (S), or never (N) true.

6. \_\_\_\_\_  $\angle 1 \cong \angle 3$
7. \_\_\_\_\_  $\angle 3 \cong \angle 8$
8. \_\_\_\_\_  $\angle 2$  and  $\angle 6$  are supplementary.
9. \_\_\_\_\_  $\angle 7$  and  $\angle 8$  are supplementary.
10. \_\_\_\_\_  $m\angle 1 \neq m\angle 6$
11. \_\_\_\_\_  $m\angle 5 = m\angle 4$

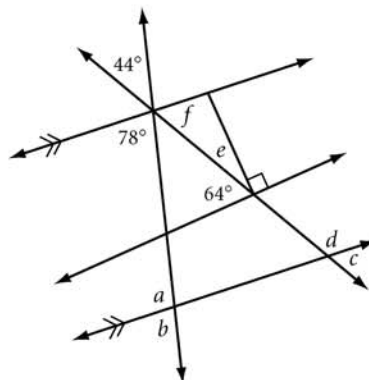
For Exercises 12–14, use your conjectures to find each angle measure.



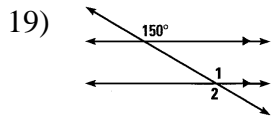
For Exercises 15–17, use your conjectures to determine whether or not  $\ell_1 \parallel \ell_2$ , and explain why. If not enough information is given, write “cannot be determined.”



18. Find each angle measure.



Find the  $m\angle 1$  and  $m\angle 2$ . Please state the conjecture, postulate, or theorem that justifies it.

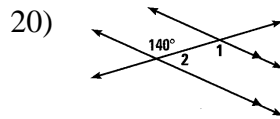


$m\angle 1 =$  \_\_\_\_\_

Reason \_\_\_\_\_

$m\angle 2 =$  \_\_\_\_\_

Reason \_\_\_\_\_

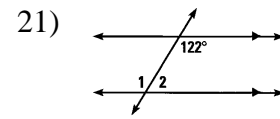


$m\angle 1 =$  \_\_\_\_\_

Reason \_\_\_\_\_

$m\angle 2 =$  \_\_\_\_\_

Reason \_\_\_\_\_



$m\angle 1 =$  \_\_\_\_\_

Reason \_\_\_\_\_

$m\angle 2 =$  \_\_\_\_\_

Reason \_\_\_\_\_

Find the values of  $x$  and  $y$ . SHOW ALL ALGEBRAIC WORK.

