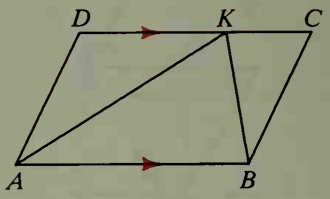
17. Given: $\overline{AB} \parallel \overline{CD}$; $m\angle D = 116$; $\overrightarrow{AK}$ bisects $\angle DAB$.

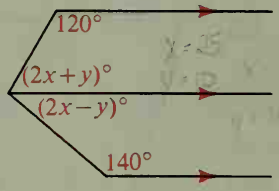
a. Find the measures of $\angle DAB$, $\angle KAB$, and $\angle DKA$.

b. Is there enough information for you to conclude that $\angle D$ and $\angle C$ are supplementary, or is more information needed?

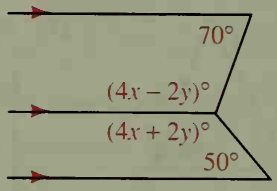


Find the values of x and y.

18.



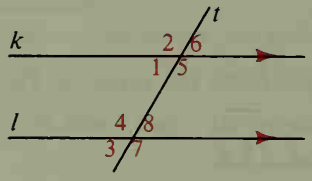
19.



Write proofs in two-column form.

20. Given: $k \parallel l$
Prove: $\angle 2 \cong \angle 7$

21. Given: $k \parallel l$
Prove: $\angle 1$ is supplementary to $\angle 7$.



22. Copy what is shown for Theorem 3-3 on page 79. Then write a proof in two-column form.

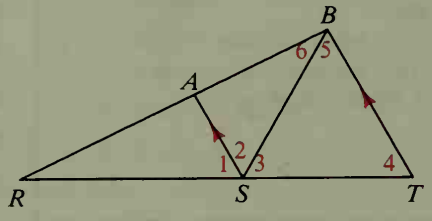
23. Draw a four-sided figure $ABCD$ with $\overline{AB} \parallel \overline{DC}$ and $\overline{AD} \parallel \overline{BC}$.

a. Prove that $\angle A \cong \angle C$.

b. Is $\angle B \cong \angle D$?

C **24.** Given: $\overline{AS} \parallel \overline{BT}$; $m\angle 4 = m\angle 5$
Prove: $\overrightarrow{SA}$ bisects $\angle BSR$.

25. Given: $\overline{AS} \parallel \overline{BT}$; $m\angle 4 = m\angle 5$; $\overrightarrow{SB}$ bisects $\angle AST$.
Find the measure of $\angle 1$.



Mixed Review Exercises

For each statement (a) tell whether the statement is true or false, (b) write the converse, and (c) tell whether the converse is true or false.

1. If two lines are perpendicular, then they form congruent adjacent angles.
2. If two lines are parallel, then they are not skew.
3. Two angles are supplementary if the sum of their measures is 180.
4. Two planes are parallel only if they do not intersect.