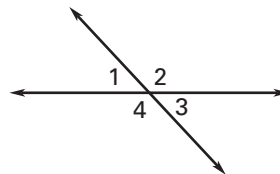


LESSON
2.7**Practice B**

For use with pages 122–131

Use the diagram to decide whether the statement is *true* or *false*.

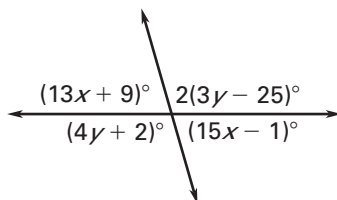
- If $m\angle 1 = 47^\circ$, then $m\angle 2 = 43^\circ$.
- If $m\angle 1 = 47^\circ$, then $m\angle 3 = 47^\circ$.
- $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$.
- $m\angle 1 + m\angle 4 = m\angle 2 + m\angle 3$.

**Make a sketch of the given information. Label all angles which can be determined.**

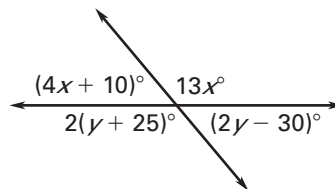
- Adjacent complementary angles where one angle measures 42°
- Nonadjacent supplementary angles where one angle measures 42°
- Congruent linear pairs
- Vertical angles which measure 42°
- $\angle ABC$ and $\angle CBD$ are adjacent complementary angles. $\angle CBD$ and $\angle DBF$ are adjacent complementary angles.
- $\angle 1$ and $\angle 2$ are complementary. $\angle 3$ and $\angle 4$ are complementary. $\angle 1$ and $\angle 3$ are vertical angles.

Find the value of the variables and the measure of each angle in the diagram.

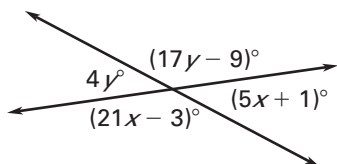
11.



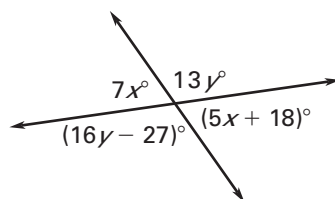
12.

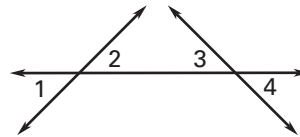


13.

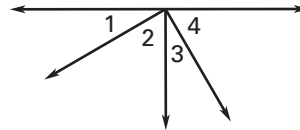


14.



LESSON
2.7**Practice B** *continued*
For use with pages 122–131**Give a reason for each step of the proof.****15. GIVEN:** $\angle 2 \cong \angle 3$ **PROVE:** $\angle 1 \cong \angle 4$ 

Statements	Reasons
1. $\angle 2 \cong \angle 3$	1. ?
2. $\angle 3 \cong \angle 4$	2. ?
3. $\angle 2 \cong \angle 4$	3. ?
4. $\angle 1 \cong \angle 2$	4. ?
5. $\angle 1 \cong \angle 4$	5. ?

16. GIVEN: $\angle 1$ and $\angle 2$ are complementary.
 $\angle 1 \cong \angle 3$, $\angle 2 \cong \angle 4$ **PROVE:** $\angle 3$ and $\angle 4$ are complementary.

Statements	Reasons
1. $\angle 1$ and $\angle 2$ are complementary.	1. ?
2. $m\angle 1 + m\angle 2 = 90^\circ$	2. ?
3. $\angle 1 \cong \angle 3$, $\angle 2 \cong \angle 4$	3. ?
4. $m\angle 1 = m\angle 3$, $m\angle 2 = m\angle 4$	4. ?
5. $m\angle 3 + m\angle 2 = 90^\circ$	5. ?
6. $m\angle 3 + m\angle 4 = 90^\circ$	6. ?
7. $\angle 3$ and $\angle 4$ are complementary.	7. ?

In the diagram, $\angle 1$ is a right angle and $m\angle 6 = 36^\circ$. Complete the statement with $<$, $>$, or $=$.

17. $m\angle 6 + m\angle 7$? $m\angle 4 + m\angle 5$
 18. $m\angle 6 + m\angle 8$? $m\angle 2 + m\angle 3$
 19. $m\angle 9$? $3(m\angle 6)$
 20. $m\angle 2 + m\angle 3$? $m\angle 1$

