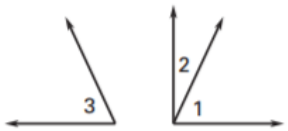
Geometry 2.7 Worksheet Name:

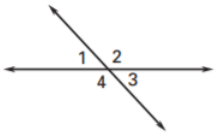
2. **GIVEN:** $\angle 3$ and $\angle 2$ are complementary.
$m\angle 1 + m\angle 2 = 90°$

PROVE: $\angle 1 \cong \angle 3$



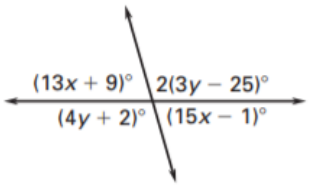
Statements	Reasons
1. $\angle 3$ and $\angle 2$ are complementary.	1. ?
2. $m\angle 1 + m\angle 2 = 90°$	2. ?
3. $m\angle 3 + m\angle 2 = 90°$	3. ?
4. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$	4. ?
5. $m\angle 1 = m\angle 3$	5. ?
6. $\angle 1 \cong \angle 3$	6. ?

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

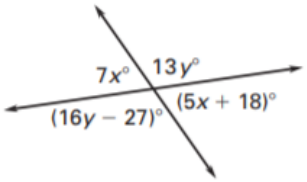


1. If $m\angle 1 = 47°$, then $m\angle 2 = 43°$.
2. If $m\angle 1 = 47°$, then $m\angle 3 = 47°$.
3. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$.
4. $m\angle 1 + m\angle 4 = m\angle 2 + m\angle 3$.

11.



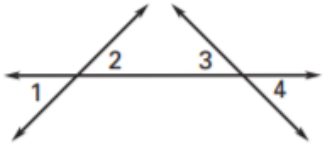
14.



Give a reason for each step of the proof.

15. **GIVEN:** $\angle 2 \cong \angle 3$

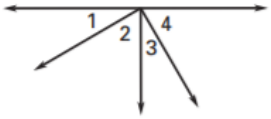
PROVE: $\angle 1 \cong \angle 4$



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. $m\angle 1 + m\angle 2 = 90°$	**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. $m\angle 3 + m\angle 2 = 90°$	**5.** ?
6. $m\angle 3 + m\angle 4 = 90°$	**6.** ?
7. $\angle 3$ and $\angle 4$ are complementary.	**7.** ?