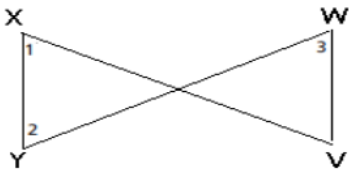


Geometry 1-2: 3.3 Proofs – parallel lines and converse – day 1 Name _____

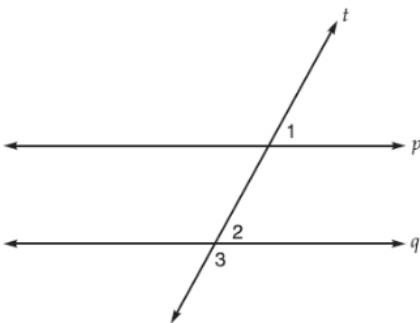
Date _____ Per _____

1. Given: $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 1$
 Prove: $XY \parallel WV$
 Proof:



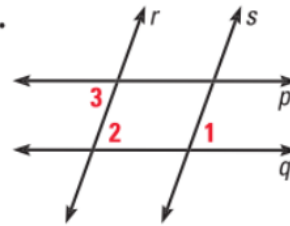
Statements	Reasons

2. Given: $p \parallel q$
 Prove: $\angle 1$ and $\angle 3$ are supplementary



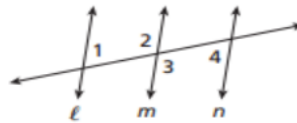
Statements	Reasons

3. In the figure, $r \parallel s$ and $\angle 1$ is congruent to $\angle 3$.
Prove $p \parallel q$.



Statements	Reasons
1. $r \parallel s$	1.
2. $\angle 1 \cong \angle 2$	2.
3. $\angle 1 \cong \angle 3$	3.
4. $\angle 2 \cong \angle 3$	4.
5. $p \parallel q$	5.

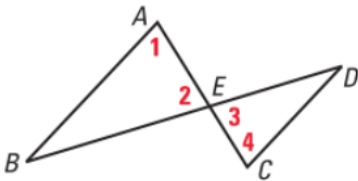
4. Given: $\angle 1 \cong \angle 4$, $\angle 3$ and $\angle 4$
are supplementary.
Prove: $\ell \parallel m$



Statements	Reasons
1. $\angle 1 \cong \angle 4$	1.
2. $\ell \parallel n$	2.
3. $\angle 3$ is supplementary to $\angle 4$	3.
4. $\angle 3 + \angle 4 = 180$	4.
5. $\angle 3 + \angle 1 = 180$	5.
6. $\angle 3$ is supplementary to $\angle 1$	6.
7. $\angle 3 \cong \angle 2$	7.
8. $\angle 2$ is supplementary to $\angle 1$	8.
9. $\ell \parallel m$	9.

5.
- GIVEN** ► $\angle 1 \cong \angle 2, \angle 3 \cong \angle 4$

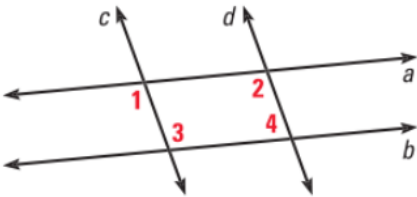
PROVE ► $\overline{AB} \parallel \overline{CD}$



Statements	Reasons

6.
- GIVEN** ► $a \parallel b, \angle 2 \cong \angle 3$

PROVE ► $c \parallel d$



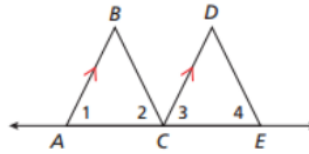
Statements	Reasons

7. Complete the following two-column proof.

Given: $\overline{AB} \parallel \overline{CD}$, $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$

Prove: $\overline{BC} \parallel \overline{DE}$

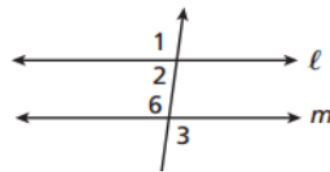
Proof:



Statements	Reasons

8. **Given:** $m\angle 2 + m\angle 3 = 180^\circ$

Prove: $\ell \parallel m$



Statements	Reasons