

# Reteaching 3-2

## Proving Lines Parallel

**OBJECTIVE:** Writing flow proofs

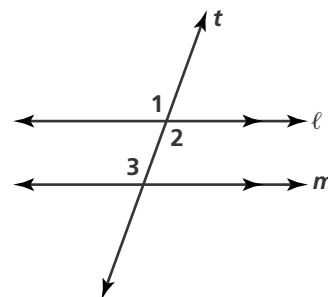
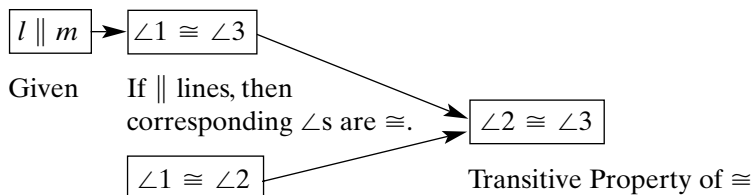
**MATERIALS:** None

### Example

Write a flow proof for Theorem 3-1: If two parallel lines are cut by a transversal, then alternate interior angles are congruent.

Given:  $l \parallel m$

Prove:  $\angle 2 \cong \angle 3$



Vertical angles are  $\cong$ .

### Exercises

Complete a flow proof for each.

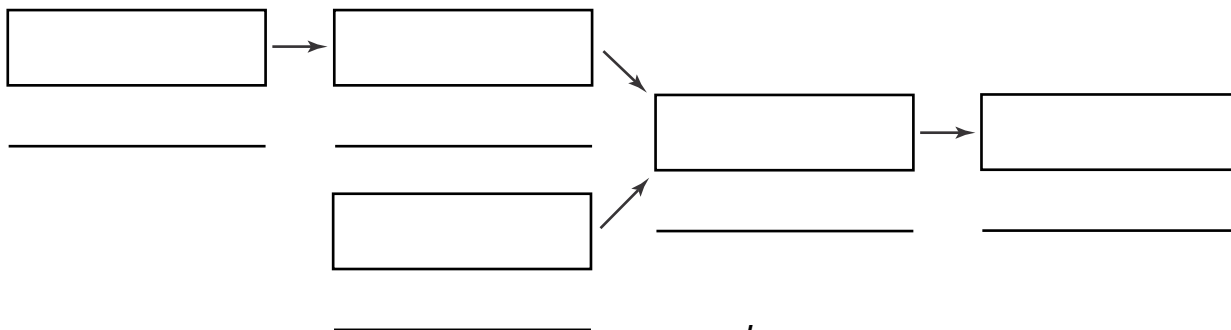
1. Complete the flow proof for Theorem 3-2 using the following steps. Then write the reasons for each step.

- a.  $\angle 2$  and  $\angle 3$  are supplementary.    b.  $\angle 1 \cong \angle 3$     c.  $l \parallel m$   
 d.  $m\angle 1 + m\angle 2 = 180$     e.  $m\angle 3 + m\angle 2 = 180$

Theorem 3-2: If two parallel lines are cut by a transversal, then same-side interior angles are supplementary.

Given:  $l \parallel m$

Prove:  $\angle 2$  and  $\angle 3$  are supplementary.



2. Write a flow proof for the following:

Given:  $\angle 2 \cong \angle 3$

Prove:  $a \parallel b$

