

LESSON
2-7 **Problem Solving**
Flowchart and Paragraph Proofs

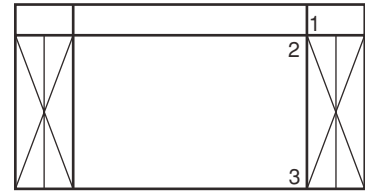
The diagram shows the second-floor glass railing at a mall.

1. Use the given two-column proof to write a flowchart proof.

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

Prove: $\angle 1$ and $\angle 3$ are supplementary.

Two-Column Proof:



Statements	Reasons
1. $\angle 2$ and $\angle 3$ are supplementary.	1. Given
2. $m\angle 2 + m\angle 3 = 180^\circ$	2. Def. of supp. \angle s
3. $\angle 2 \cong \angle 1$	3. Vert. \angle s Thm.
4. $m\angle 2 = m\angle 1$	4. Def. of $\cong \angle$ s
5. $m\angle 1 + m\angle 3 = 180^\circ$	5. Subst.
6. $\angle 1$ and $\angle 3$ are supplementary.	6. Def. of supp. \angle s

Choose the best answer.

2. Which would NOT be included in a paragraph proof of the two-column proof above?
- A Since $\angle 2$ and $\angle 3$ are supplementary, $m\angle 2 = m\angle 3$.
 - B $\angle 2 \cong \angle 1$ by the Vertical Angles Theorem.
 - C Using substitution, $m\angle 1 + m\angle 3 = 180^\circ$.
 - D $m\angle 2 = m\angle 1$ by the definition of congruent angles.