

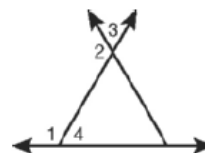
LESSON
2-7

Practice B
Flowchart and Paragraph Proofs

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

Given: $\angle 4 \cong \angle 3$

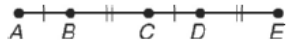
Prove: $m\angle 1 = m\angle 2$



Statements	Reasons
1. $\angle 1$ and $\angle 4$ are supplementary, $\angle 2$ and $\angle 3$ are supplementary.	1. Linear Pair Thm.
2. $\angle 4 \cong \angle 3$	2. Given
3. $\angle 1 \cong \angle 2$	3. \cong Supps. Thm.
4. $m\angle 1 = m\angle 2$	4. Def. of $\cong \angle$ s

2. Use the given two-column proof to write a paragraph proof.

Given: $AB = CD$, $BC = DE$

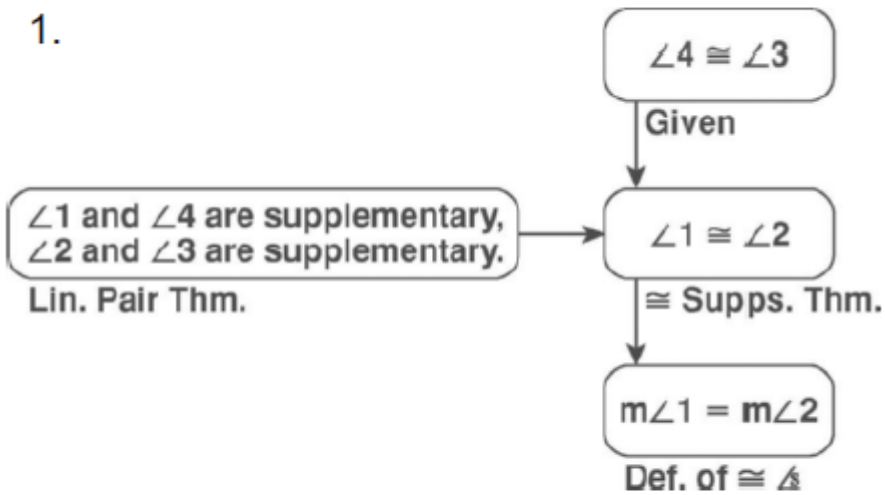


Prove: C is the midpoint of \overline{AE} .

Statements	Reasons
1. $AB = CD$, $BC = DE$	1. Given
2. $AB + BC = CD + DE$	2. Add. Prop. of =
3. $AB + BC = AC$, $CD + DE = CE$	3. Seg. Add. Post.
4. $AC = CE$	4. Subst.
5. $\overline{AC} \cong \overline{CE}$	5. Def. of \cong segs.
6. C is the midpoint of \overline{AE} .	6. Def. of mdpt.

Practice B

1.



2. It is given that $AB = CD$ and $BC = DE$, so by the Addition Property of Equality, $AB +$

$BC = CD + DE$. But by the Segment Addition Postulate, $AB + BC = AC$ and $CD + DE = CE$. Therefore substitution yields $AC = CE$. By the definition of congruent segments, $\overline{AC} \cong \overline{CE}$ and thus C is the midpoint of \overline{AE} by the definition of midpoint.