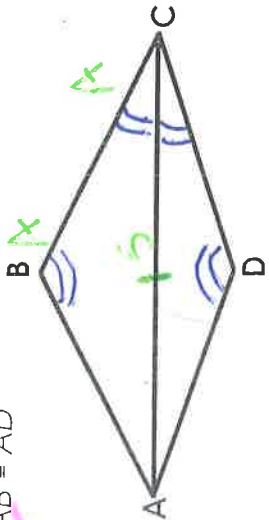


# CPCTC PROOF #3

**Given:**  $\overline{AC}$  bisects  $\angle BCD$   $\angle ABC \cong \angle ADC$

**prove:**  $\overline{AB} \cong \overline{AD}$



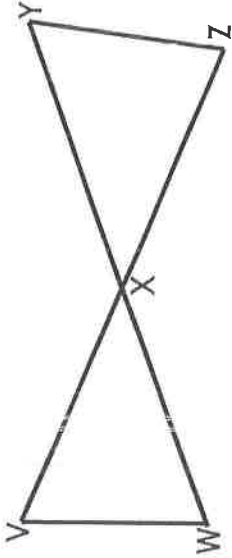
Statements	Reasons
$\overline{AC}$ bisects $\angle BCD$	Given
$\angle BCA \cong \angle DCA$	Def. Bisector
$\angle ABC \cong \angle ADC$	Given
$\overline{AC} \cong \overline{AC}$	Reflexive
$\triangle ABC \cong \triangle ADC$	AAS
$\overline{AB} \cong \overline{AD}$	CPCTC

Given	$\triangle ABC \cong \triangle ADC$
$\overline{AC} \cong \overline{AC}$	$\overline{AC}$ bisects $\angle BCD$ $\angle ABC \cong \angle ADC$
Def. of Angle Bisector	Given
$\overline{AB} \cong \overline{AD}$	$\angle BCA \cong \angle DCA$ AAS
Reflexive Property	CPCTC

# CPCTC PROOF #4

**Given:**  $\overline{WV} \parallel \overline{YZ}$ , X is the midpoint of  $\overline{WY}$ ,

**prove:**  $\angle VWX \cong \angle ZYX$



Statements	Reasons

ASA	$\triangle VWX \cong \triangle ZYX$	$\overline{WX} \cong \overline{YX}$
$\overline{WV} \parallel \overline{YZ}$	CPCTC	Given
Def. of Midpoint	Alt. Interior Angles	$\angle VXW \cong \angle ZXY$
$\angle VWX \cong \angle ZYX$	X is the midpoint of $\overline{WY}$	
$\angle VWX \cong \angle ZYX$	Given	Vertical Angles