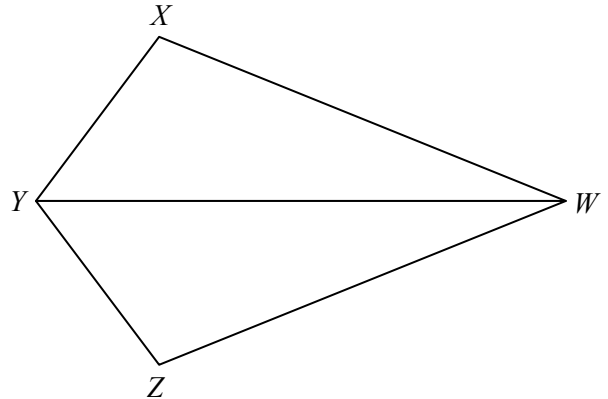
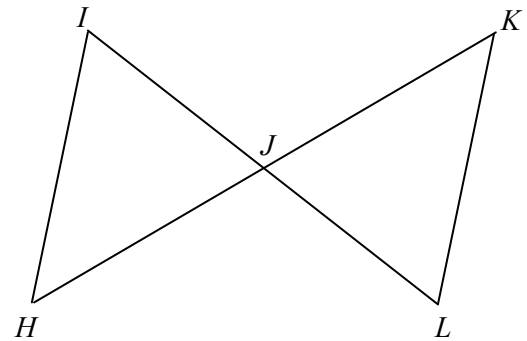


Write a two Column Proof.

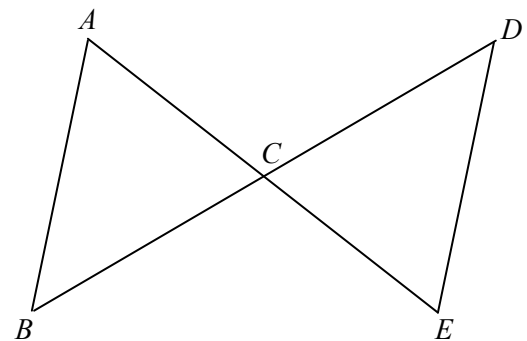
- 1) Given:  $\overline{YX} \cong \overline{YZ}$ ,  $\angle XYW \cong \angle ZYW$   
Prove:  $\overline{XW} \cong \overline{ZW}$



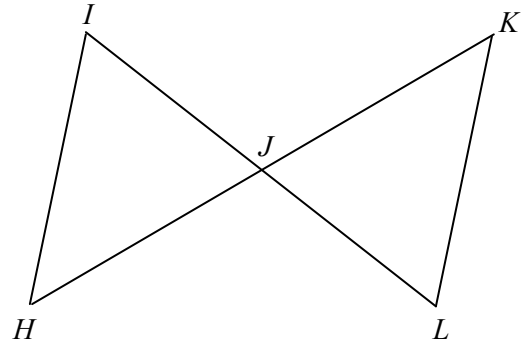
- 2) Given:  $\overline{IJ} \cong \overline{LJ}$  and  $\overline{HJ} \cong \overline{KJ}$   
Prove:  $\overline{IH} \cong \overline{LK}$



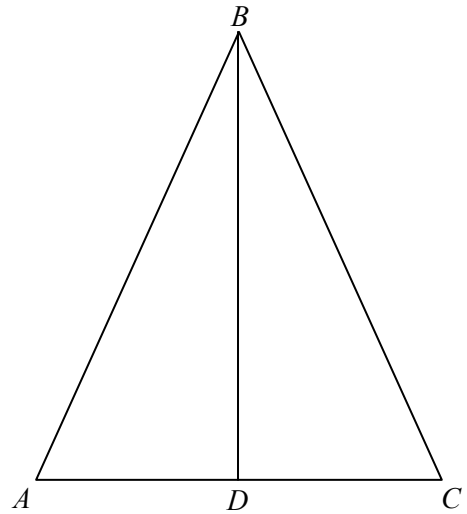
- 3) Given:  $\overline{AC} \cong \overline{EC}$  and  $\overline{BC} \cong \overline{DC}$   
Prove:  $\angle A \cong \angle E$



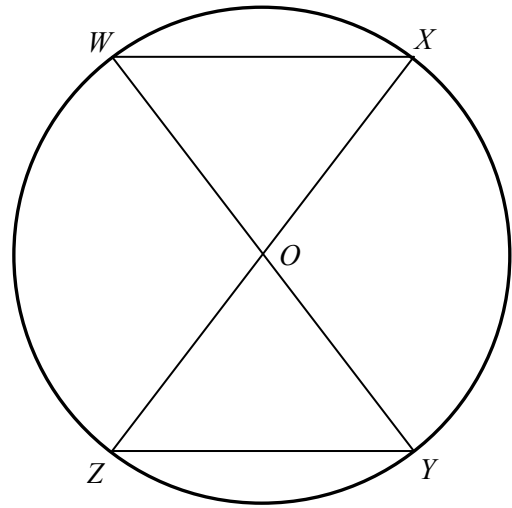
- 4) Given:  $\angle H \cong \angle K$  and  $\overline{HJ} \cong \overline{KJ}$   
Prove:  $\overline{IJ} \cong \overline{LJ}$



- 5) Given:  $\angle A \cong \angle C$ ;  $\overline{BD}$  bisects  $\angle ABC$   
Prove:  $\overline{AB} \cong \overline{CB}$



- 6) Given:  $O$  is the center of the circle  
Prove:  $\overline{WX} \cong \overline{YZ}$



*Answer Key*

$$\overline{YX} \cong \overline{YX}, \angle XYW \cong \angle ZYW \dots\dots\dots \text{Given}$$

- 1)  $\overline{WY} \cong \overline{WY} \dots\dots\dots$  Reflexive  
 $\triangle WXY \cong \triangle WZY \dots\dots\dots$  SAS  
 $\overline{XW} \cong \overline{ZW} \dots\dots\dots$  CPCTC

$$\overline{IJ} \cong \overline{LJ}, \overline{HJ} \cong \overline{KJ} \dots\dots\dots \text{Given}$$

- 2)  $\angle IJH \cong \angle LJK \dots\dots\dots$  Vertical Angles  
 $\triangle IJH \cong \triangle LJK \dots\dots\dots$  SAS  
 $\overline{IH} \cong \overline{LK} \dots\dots\dots$  CPCTC

$$\overline{AC} \cong \overline{EC}, \overline{BC} \cong \overline{DC} \dots\dots\dots \text{Given}$$

- 3)  $\angle ACB \cong \angle ECD \dots\dots\dots$  Vertical Angles  
 $\triangle ABC \cong \triangle EDC \dots\dots\dots$  SAS  
 $\angle A \cong \angle E \dots\dots\dots$  CPCTC

$$\angle H \cong \angle K, \overline{HJ} \cong \overline{KJ} \dots\dots\dots \text{Given}$$

- 4)  $\angle IJH \cong \angle LJK \dots\dots\dots$  Vertical Angles  
 $\triangle IJH \cong \triangle LJK \dots\dots\dots$  SAS  
 $\overline{IJ} \cong \overline{LJ} \dots\dots\dots$  CPCTC

$$\angle A \cong \angle C, \overline{BD} \text{ bisects } \angle ABC \dots\dots\dots \text{Given}$$

$$\angle ABD \cong \angle CBD \dots\dots\dots \text{Definition of Angle Bisector}$$

- 5)  $\overline{BD} \cong \overline{BD} \dots\dots\dots$  Reflexive  
 $\triangle ABD \cong \triangle CBD \dots\dots\dots$  AAS  
 $\overline{AB} \cong \overline{CB} \dots\dots\dots$  CPCTC

$$O \text{ is the center of the circle } \dots\dots\dots \text{Given}$$

$$\overline{WO} \cong \overline{YO}, \overline{XO} \cong \overline{ZO} \dots\dots\dots \text{Radii of circle are congruent}$$

- 6)  $\angle WOX \cong \angle YOZ \dots\dots\dots$  Vertical Angles  
 $\triangle WOX \cong \triangle YOZ \dots\dots\dots$  SAS  
 $\overline{WX} \cong \overline{YZ} \dots\dots\dots$  CPCTC