

Proof #1

$$\overline{AE} \cong \overline{DE}$$

Given

$$\angle A \cong \angle D$$

Given

$$\angle A \cong \angle AEB$$

Given

$$\triangle AEB \cong \triangle DEC$$

ASA Postulate

Proof #2

$$\overline{HD} \cong \overline{GF}$$

Given

G is the midpoint of \overline{HF}

Given

$$\overline{HG} \cong \overline{GF}$$

A midpoint cuts a segment into 2 \cong pieces

$$\overline{DG} \cong \overline{DG}$$

Reflexive Property

$$\triangle HOG \cong \triangle FOG$$

SSS Postulate

Proof #3

$$\overline{RT} \cong \overline{TV}$$

Given

$$\overline{ST} \cong \overline{TU}$$

Given

$$\angle STR \cong \angle UTU$$

Vertical \angle s are \cong

$$\triangle RTS \cong \triangle VTU$$

SAS Postulate

Proof #4

\overline{MO} Bisects $\angle NOP$

Given

$$\angle NOM \cong \angle POM$$

A bisector cuts an angle into 2 \cong angles

$$\angle NMO \cong \angle PMO$$

Given

$$\overline{MO} \cong \overline{MO}$$

Reflexive Property

$$\triangle MNO \cong \triangle MPO$$

ASA Postulate