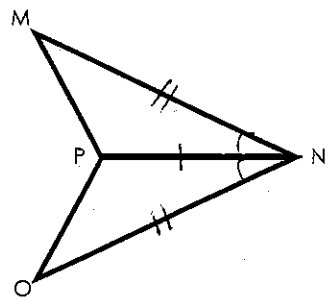
Independent Practice

Given: $\overline{MN} \cong \overline{NP}$ and $\overline{NP}$ bisects $\angle ONM$

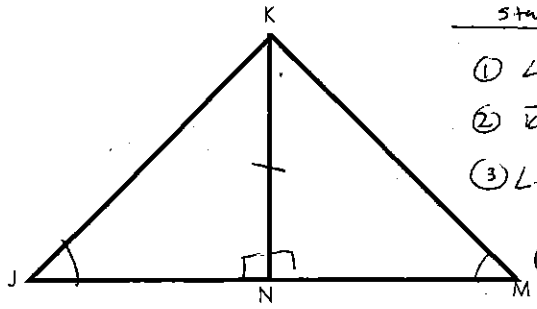
Prove: $\triangle MNP \cong \triangle ONP$



Statement	Reason
(1) $MN \cong NP$	(1) given
(2) $\overline{NP}$ bisects $\angle ONM$	(2) given
(3) $\overline{NP} \cong \overline{NP}$	(3) Reflexive Property
(4) $\angle MNP \cong \angle ONP$	(4) Angle bisectors divide an angle into $\cong$ parts
(5) $\triangle MNP \cong \triangle ONP$	(5) SAS $\cong$

Given: $\angle J \cong \angle M$ and $\overline{KN} \perp \overline{JM}$

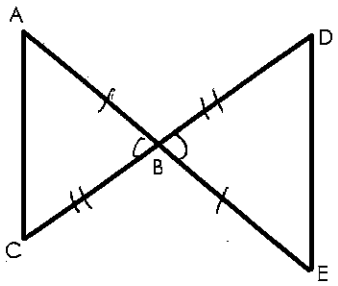
Prove: ~~$\triangle ABC \cong \triangle DBE$~~ $\triangle JNK \cong \triangle MNK$



Statement	Reason
(1) $\angle J \cong \angle M$	(1) given
(2) $\overline{KN} \perp \overline{JM}$	(2) given
(3) $\angle JNK$ and $\angle MNK$ are right $\angle$'s	(3) def. of perp lines
(4) ~~$\angle JNK$~~ $\cong \angle MNK$	(4) right $\angle$'s are $\cong$
(5) $\overline{KN} \cong \overline{KN}$	(5) Reflexive Prop
(6) ~~$\triangle ABC$~~ $\triangle JNK \cong \triangle MNK$	(6) AAS $\cong$

Given: B is the midpoint of $\overline{DC}$ and $\overline{AE}$

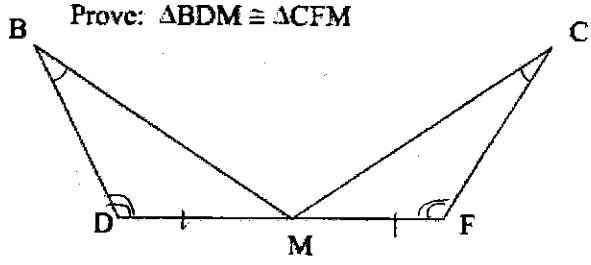
Prove: $\triangle ABC \cong \triangle DBE$



statement	reason
(1) B is the midpoint of $\overline{DC}$ and $\overline{AE}$	(1) given
(2) $\overline{AB} \cong \overline{BE}$	(2) Midpoints divide a line in to $\cong$ parts
(3) $\overline{CB} \cong \overline{BD}$	(3) "midpoint..." "
(4) $\angle ABC \cong \angle DBE$	(4) Vertical $\angle$'s are $\cong$
(5) $\triangle ABC \cong \triangle EBD$	(4) SAS $\cong$

Writing Proofs

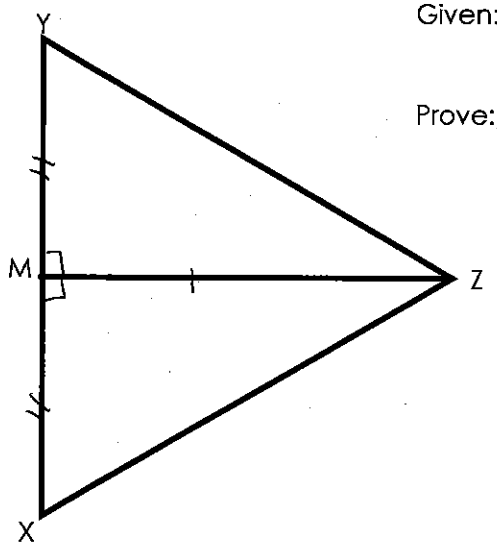
2. Given: $\angle DBM \cong \angle FCM$, $\angle BDM \cong \angle CFM$
M is the midpoint of $\overline{DF}$
Prove: $\Delta BDM \cong \Delta CFM$



Step 1: Mark Triangle

Step 2: Draw T-Chart

statement	reason
(1) $\angle DBM \cong \angle FCM$	(1) given
(2) $\angle BDM \cong \angle CFM$	(2) given
(3) M is the midpoint of $\overline{DF}$	(3) given
(4) $\overline{DM} \cong \overline{MF}$	(4) midpoint divides a line into 2 $\cong$ parts
(5) $\Delta BDM \cong \Delta CFM$	(5) AAS $\cong$



Given: $\overline{ZM}$ is the median of $\overline{YX}$

$\overline{ZM}$ is the altitude of $\blacktriangle XYZ$

Prove: $\blacktriangle YZM \cong \blacktriangle XZM$

Statement	Reason
(1) $\overline{ZM}$ is the median of $\overline{YX}$	(1) given
(2) ZM is the Altitude of ΔXYZ	(2) given
(3) $\overline{ZM} \cong \overline{ZM}$	(3) Reflexive property
(4) $YM \cong MX$	(4) A median intersects with the midpoint and divides it into 2 $\cong$ parts
(5) $\angle YMZ$ and $\angle XMZ$ are right $\angle$'s	(5) The Altitude of a Δ makes a right $\angle$ with the base
(6) $\angle YMZ \cong \angle XMZ$	(6) All right $\angle$s are $\cong$
(7) $\Delta YZM \cong \Delta XZM$	(7) SAS $\cong$