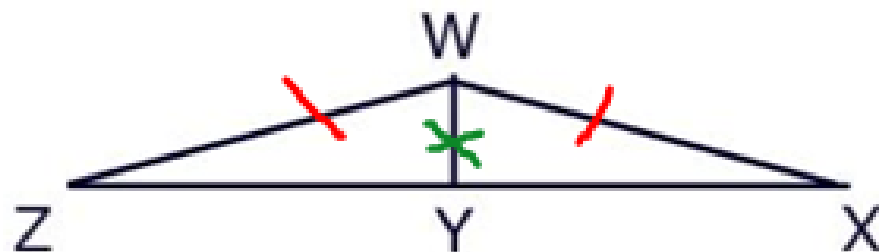


Homework Answers

Proof B

Given: $\overline{WZ} \cong \overline{WX}$, \overline{WY} bisects \overline{ZX}

Prove: $\triangle WYZ \cong \triangle WYX$

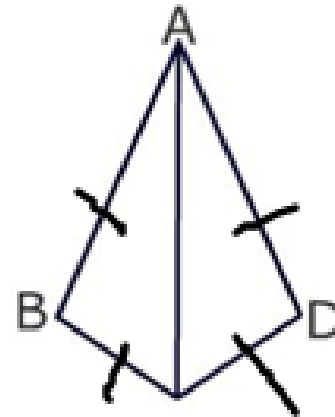


Statements	Reason
① $\overline{WZ} \cong \overline{WX}$ \overline{WY} bisects \overline{ZX}	① Given
② $\overline{WY} \cong \overline{WY}$	② Reflexive Property.
③ $\overline{ZY} \cong \overline{YX}$	③ Def. of a bisector
④ $\triangle WYZ \cong \triangle WYX$	④ SSS \cong SSS

Proof C

Given: $\overline{BA} \cong \overline{AD}$, $\overline{BC} \cong \overline{CD}$

Prove: $\triangle ABC \cong \triangle ADC$



Statement	Reason
① $\overline{BA} \cong \overline{AD}$ $\overline{BC} \cong \overline{CD}$	① Given
② $\overline{AC} \cong \overline{AC}$	② Reflexive Property
③ $\triangle ABC \cong \triangle ADC$	③ SSS \cong SSS

Section 4.4

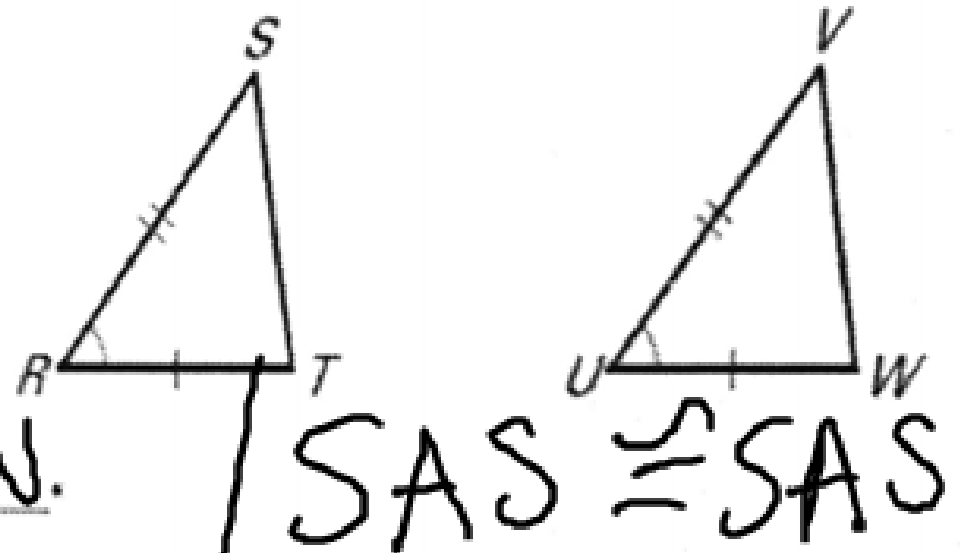
Proving SAS, HL

POSTULATE 20: SIDE-ANGLE-SIDE (SAS) CONGRUENCE POSTULATE

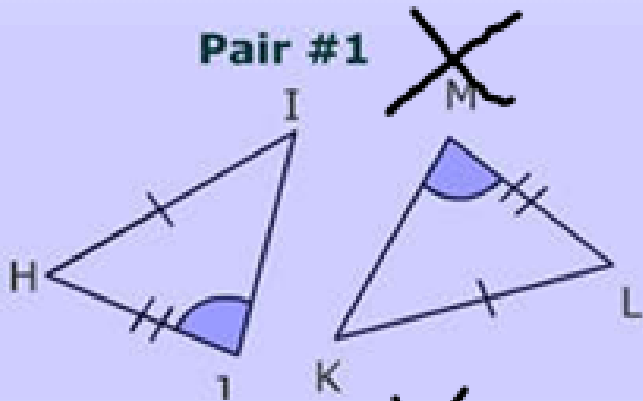
If two sides and the included angle of one triangle are congruent to two sides and the included angle of a second triangle, then the two triangles are congruent.

If Side $\overline{RS} \cong \overline{UV}$,
Angle $\angle R \cong \angle U$, and
Side $\overline{RT} \cong \overline{UW}$,

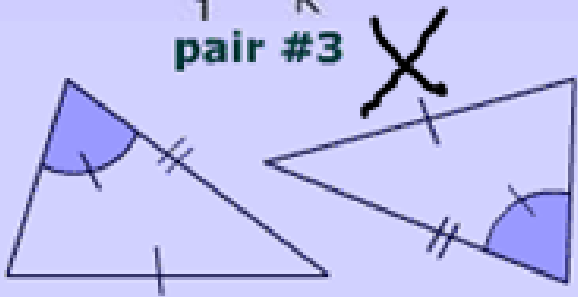
then $\triangle RST \cong \triangle UVW$.



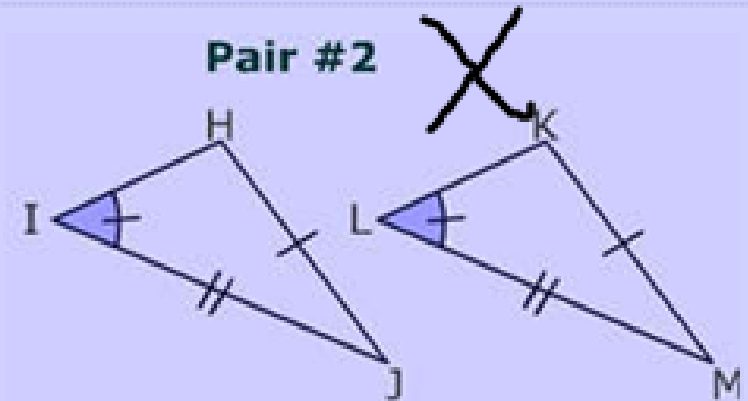
Pair #1



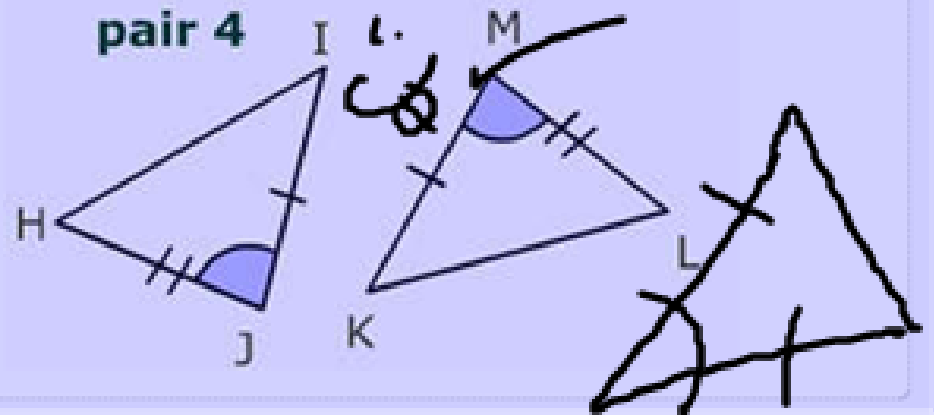
pair #3



Pair #2



pair 4

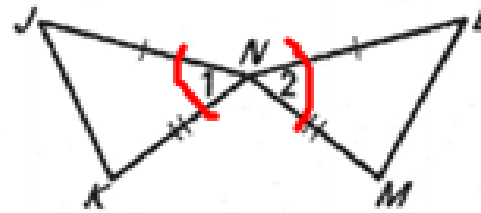


Example 2

Write a proof.

Given $\overline{JN} \cong \overline{LN}$, $\overline{KN} \cong \overline{MN}$

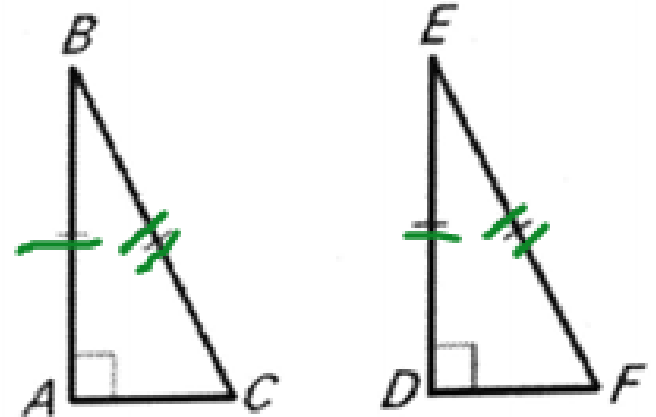
Prove $\triangle JKN \cong \triangle LMN$



Statement	Reason
① $\frac{\overline{JN}}{\overline{KN}} \cong \frac{\overline{LN}}{\overline{MN}}$	① Given
② $\sphericalangle 1$ and $\sphericalangle 2$ are vertical \sphericalangle 's	② Def. of vertical angles
③ $\sphericalangle 1 \cong \sphericalangle 2$	③ Vertical \sphericalangle 's are \cong
④ $\triangle JKN \cong \triangle LMN$	④ SAS \cong SAS

THEOREM 4.5: HYPOTENUSE-LEG CONGRUENCE THEOREM

If the hypotenuse and a leg of a right triangle are congruent to the hypotenuse and a leg of a second triangle, then the two triangles are congruent



$$\triangle ABC \cong \triangle DEF$$
$$HL \cong HL$$

Example 3 Write a proof.

Given

$$\overline{AC} \cong \overline{EC},$$

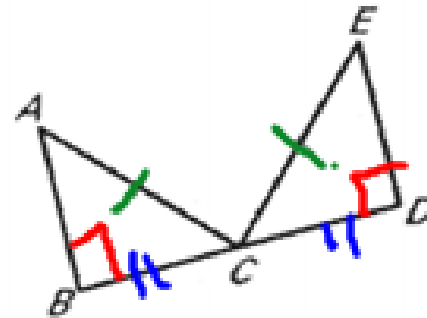
$$\overline{AB} \perp \overline{BD},$$

$$\overline{ED} \perp \overline{BD},$$

\overline{AC} is a bisector of \overline{BD} .

Prove

$$\triangle ABC \cong \triangle EDC$$



Statement

Reason

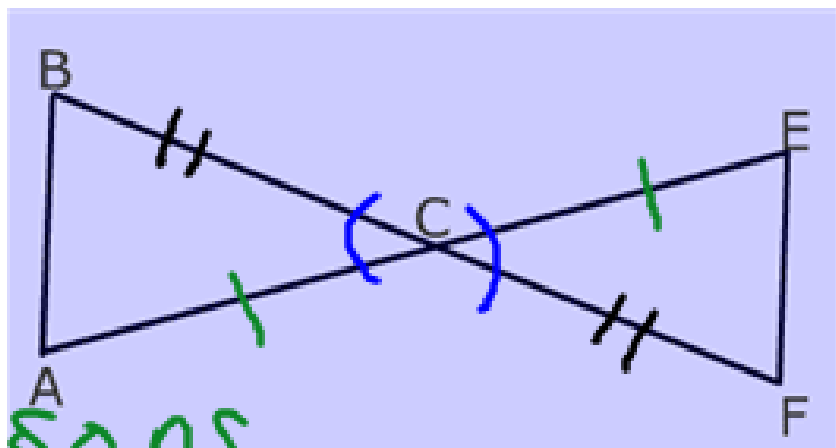
①	① Given
② $\overline{BC} \cong \overline{CD}$	② Def. of a bisector.
③ $\angle ABC$ & $\angle EDC$ are right angles.	③ \perp lines form right angles.
④ $\angle B \cong \angle D$	④ All right angles are \cong
⑤ $\triangle ABC \cong \triangle EDC$	⑤ HL \cong HL

Homework

Last Page:
front and back

Given: 1) point C is the midpoint of BF 2) $\overline{AC} = \overline{CE}$

Prove: Triangle ABC is congruent to triangle EFC



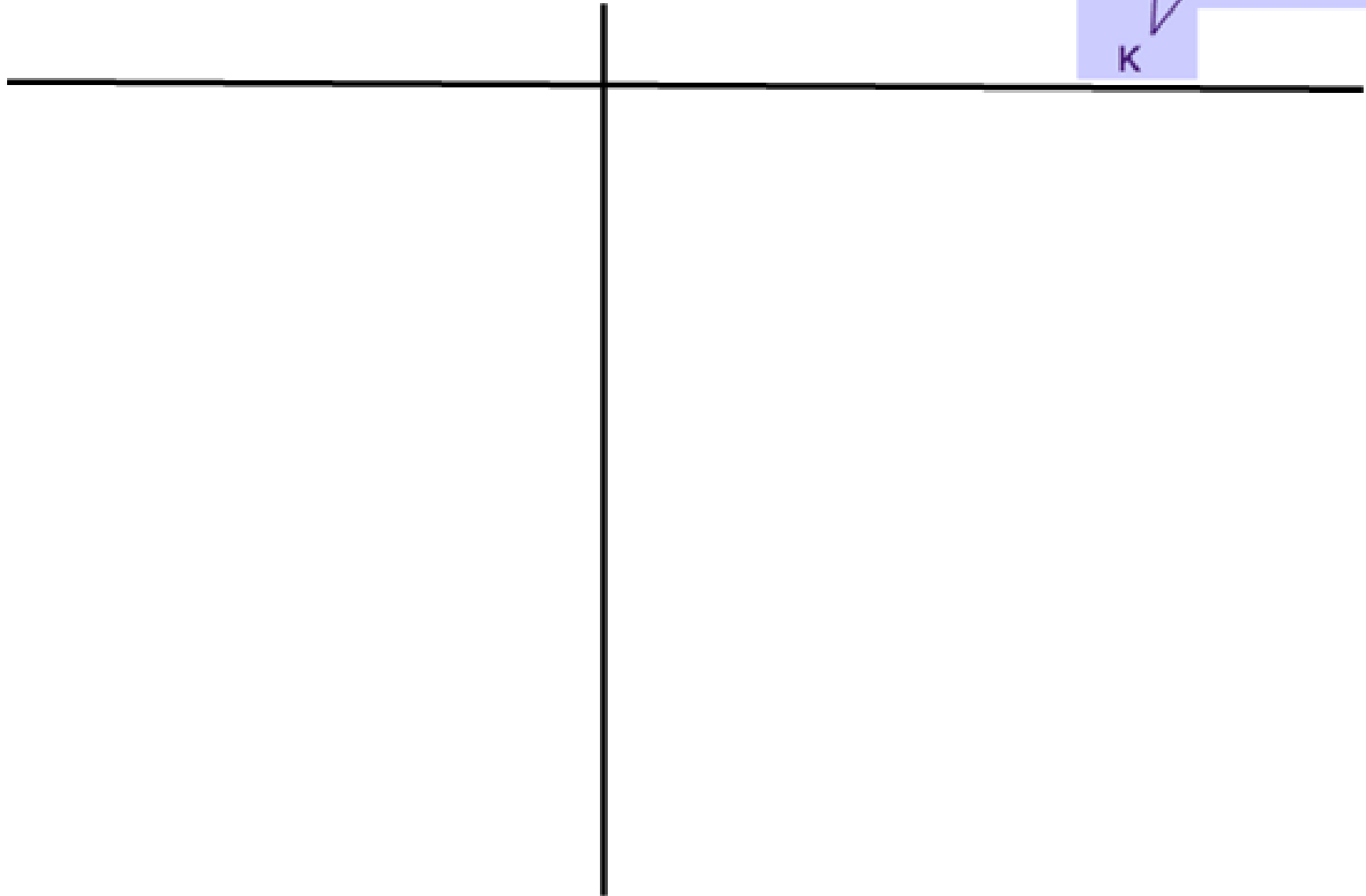
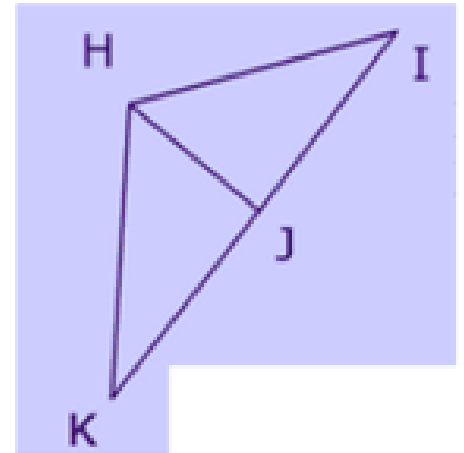
Statement

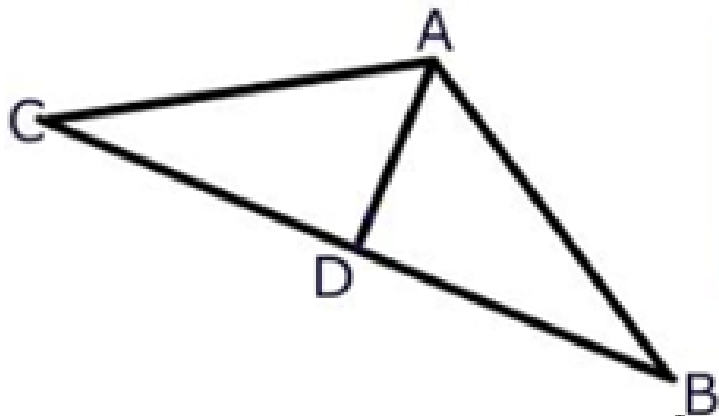
Reasons.

① C is mdpt of BF $\overline{AC} \cong \overline{CE}$	① Given
② $\angle BCA$ & $\angle FCE$ are vertical \angle 's	② Def. of vertical angles.
③ $\angle BCA \cong \angle FCE$	③ Vertical \angle 's \cong
④ $\overline{BC} \cong \overline{CF}$	④ Def of midpoint
⑤ $\triangle ABC \cong \triangle EFC$	⑤ SAS \cong SAS

Given

\overline{HJ} is a perpendicular bisector of \overline{KI}





Given

\overline{AD} is perpendicular to \overline{CB}

$\overline{CA} = \overline{AB}$

Proof A)

Given: $\overline{AD} \perp \overline{BC}$, $\overline{BA} \cong \overline{AC}$

Prove: $\triangle ABD \cong \triangle ACD$

