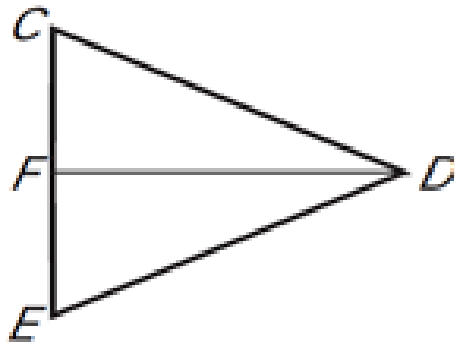


4.4 Warm-up:

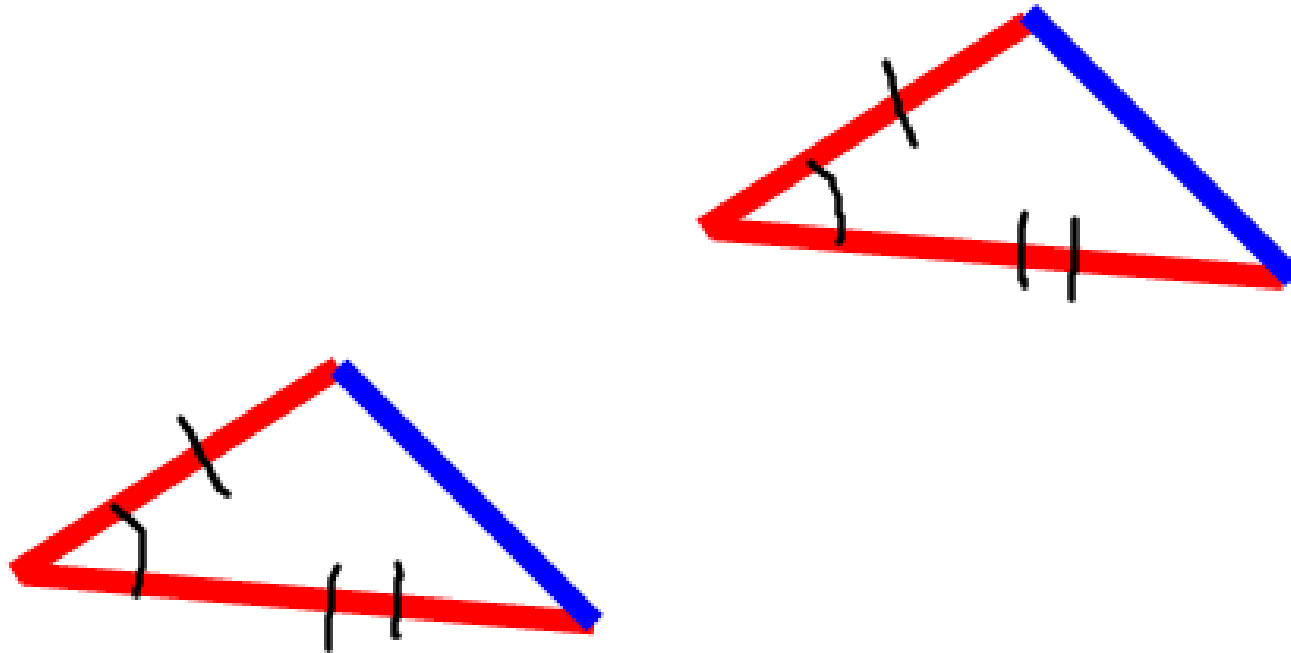
Given: \overline{DF} bisects \overline{CE} , $\overline{DC} \cong \overline{DE}$

Prove: $\triangle CDF \cong \triangle EDF$



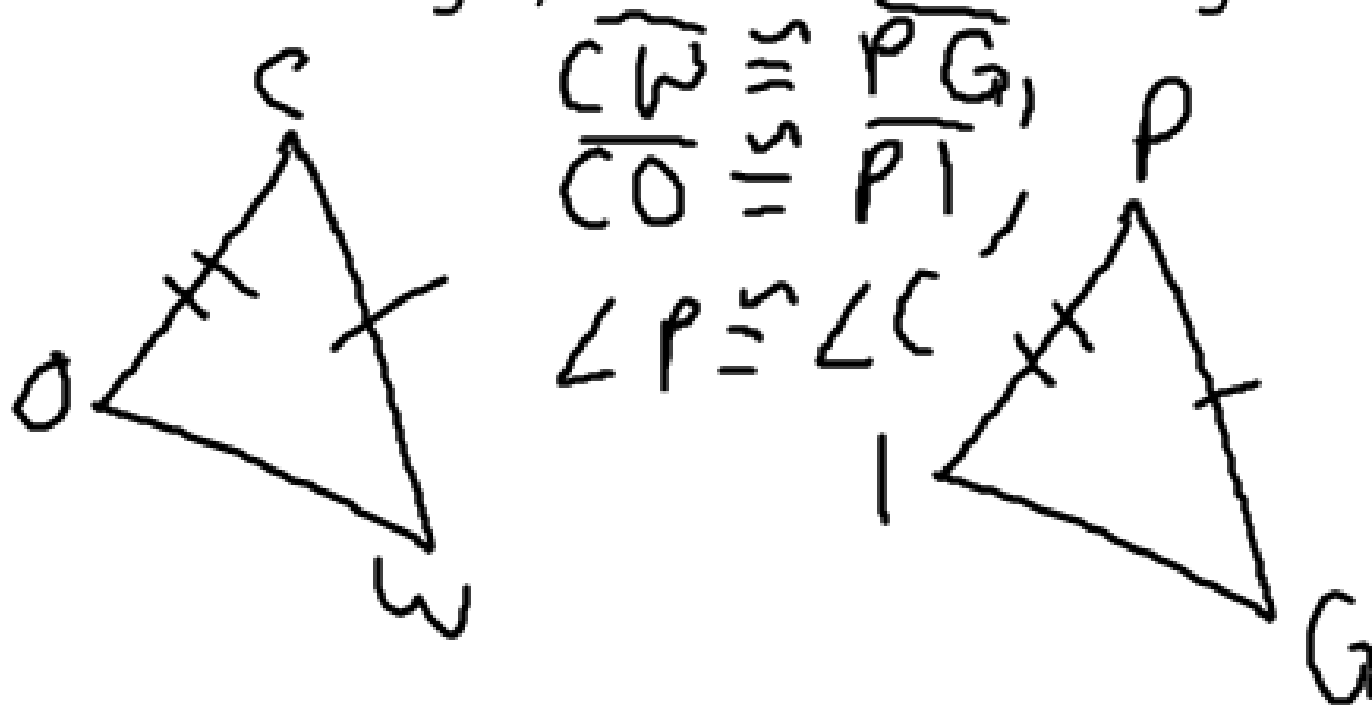
1. \overline{DF} bisects \overline{CE} , 1. Given
 $\overline{DC} \cong \overline{DE}$
2. $\overline{DF} \cong \overline{DF}$ 2. Reflexive
3. $\overline{CF} \cong \overline{FE}$ 3. Def. of bisect
4. $\triangle CDF \cong \triangle EDF$ 4. SSS.

Showing Side-Angle-Side \cong Postulate



Side-Angle-Side (SAS) Congruence Postulate

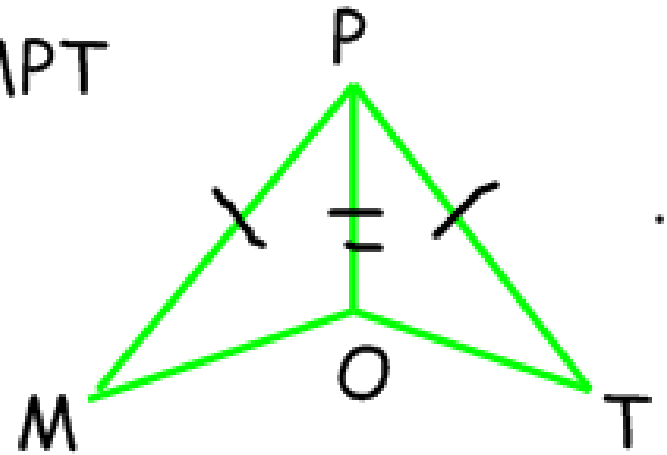
If two sides and the included angle of one triangle are congruent to two sides and the included angle of a second triangle, then the two triangles are congruent.



Using SAS:

Given: $\overline{MP} \cong \overline{TP}$, \overline{OP} bisects $\angle MPT$

Prove: $\triangle MOP \cong \triangle TOP$

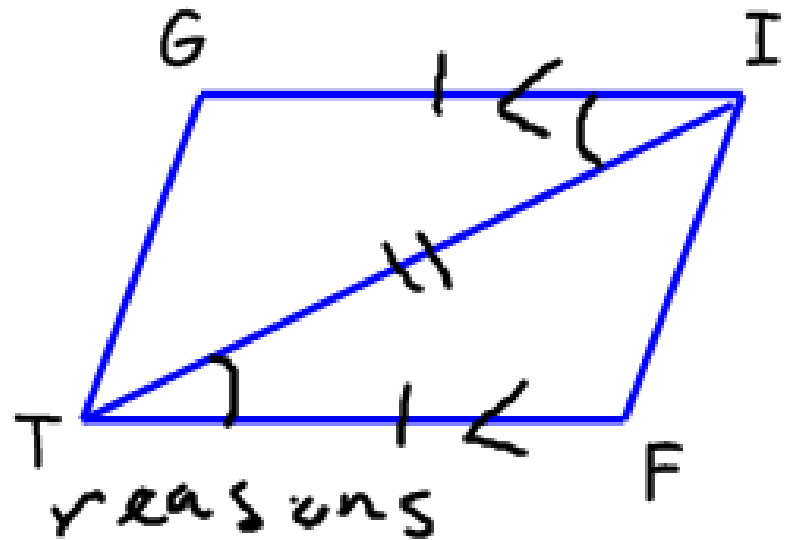


1. $\overline{MP} \cong \overline{TP}$,
 \overline{OP} bisects $\angle MPT$
2. $\overline{OP} \cong \overline{OP}$
3. $\angle MPO \cong \angle TPO$
4. $\triangle MOP \cong \triangle TOP$

1. Given
2. Reflexive
3. Definition of bisector
4. SAS.

Given: $\overline{GI} \cong \overline{FT}$, $\overline{GI} \parallel \overline{TF}$

Prove: $\triangle TGI \cong \triangle IFT$



Statements

1. $\overline{GI} \cong \overline{FT}$, $\overline{GI} \parallel \overline{TF}$

2. $\overline{TI} \cong \overline{IT}$

3. $\angle GTI \cong \angle FTI$

4. $\triangle TGI \cong \triangle IFT$

1. Given

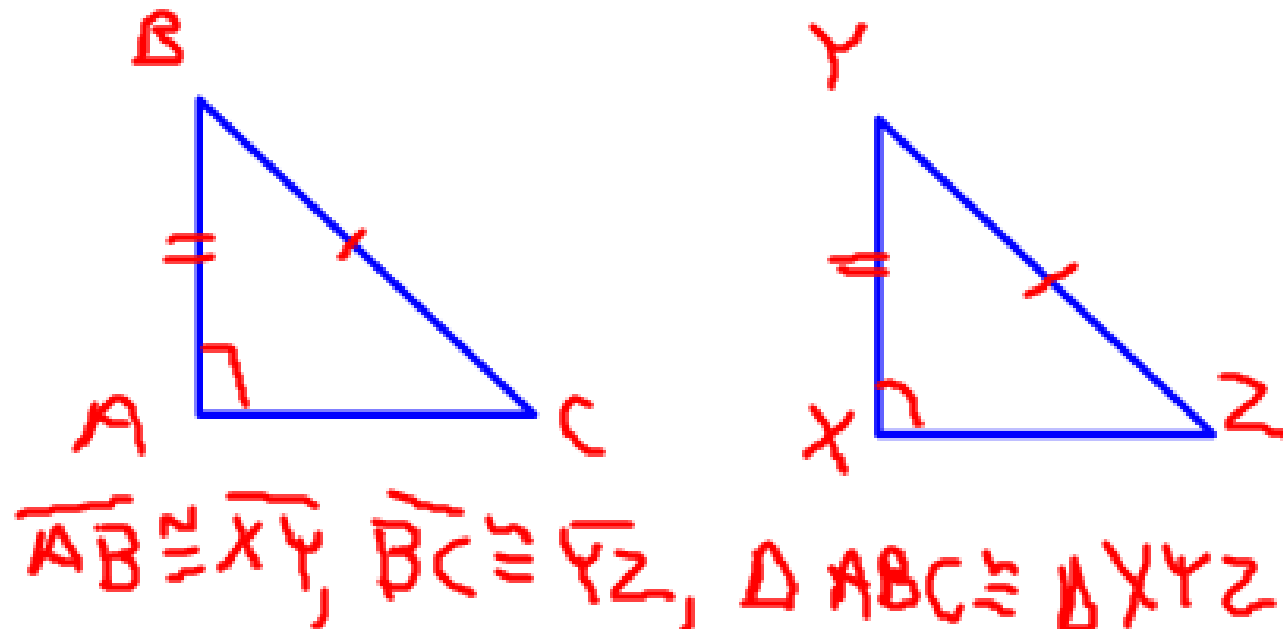
2. Reflexive

3. Alternate Interior \angle 's Thm

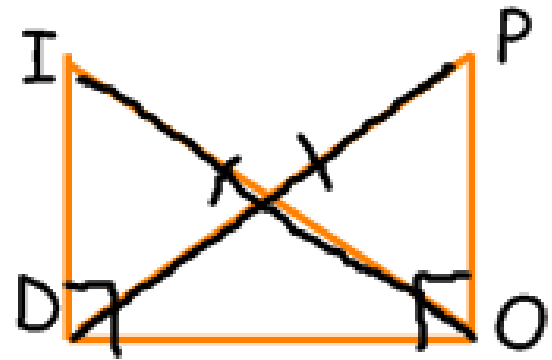
4. SAS.

Hypotenuse-Leg (HL) \cong Thm

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



Write a proof.



Given: $\overline{IO} \cong \overline{PD}$, $\overline{ID} \perp \overline{DO}$, $\overline{PO} \perp \overline{DO}$

Prove: $\triangle IOD \cong \triangle PDO$

1. $\overline{IO} \cong \overline{PD}$, $\overline{ID} \perp \overline{DO}$, $\overline{PO} \perp \overline{DO}$ 1. Given
2. $\angle IDO$ & $\angle POD$ are right \angle 's 2. Definition of perpendicular
3. $\overline{DO} \cong \overline{DO}$ 3. reflexive
4. $\triangle IOD$ & $\triangle PDO$ are right \triangle 's 4. Def. of right \triangle 's
5. $\triangle IOD \cong \triangle PDO$ 5. HL

Homework:

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#'s 2-16E, 20-22, 26, 34-38 even

proofs



Quiz next time over 4.1-4.4!