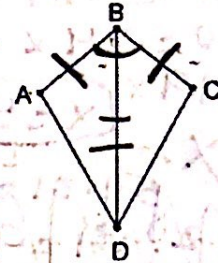


Day 7: Congruence Proofs

Complete the following congruence proofs:

1. Given: \overline{BD} bisects $\angle ABC$
 $\overline{BA} \cong \overline{CB}$

Prove: $\triangle ABD \cong \triangle CBD$



Given: \overline{BD} bisects $\angle ABC$
 Def. of angle bisector: $\angle ABD \cong \angle CBD$

Given: $\overline{BA} \cong \overline{CB}$

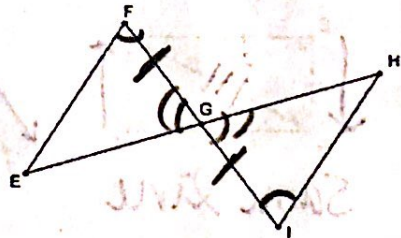
Reflexive Prop: $\overline{BD} \cong \overline{BD}$

SAS: $\triangle ABD \cong \triangle CBD$

CPCTC: $\angle ADB \cong \angle CDB$

2. Given: G is the midpoint of \overline{FI}

Prove: $\overline{EF} \cong \overline{IH}$



Given: G is the midpoint of \overline{FI}
 Def. of midpoint: $\overline{FG} \cong \overline{GI}$

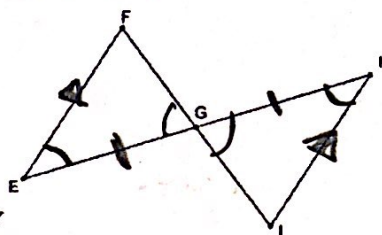
Given: $\angle F \cong \angle I$

Vertical Pair: $\angle EGF \cong \angle HGI$

ASA: $\triangle EFG \cong \triangle HIG$

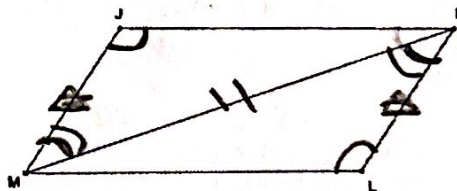
CPCTC: $\overline{EF} \cong \overline{IH}$

3. Given: $\overline{EF} \parallel \overline{HI}$
 G is the midpoint of \overline{EH}
 Prove: $\overline{FG} \cong \overline{GH}$



Given	Given	Vertical Pair
$\overline{EF} \parallel \overline{HI}$	G is the midpt of EH	$\angle FGE \cong \angle HGI$
ALT Int	Def. of midpoint	
$\angle E \cong \angle H$	$\overline{EG} \cong \overline{GH}$	
	ASA	
	$\triangle EGF \cong \triangle HGI$	
	CPCTC	
	$\overline{FG} \cong \overline{GH}$	

4. Given: $\overline{JM} \parallel \overline{LK}$
 $\angle J \cong \angle L$
 Prove: $\overline{JK} \cong \overline{ML}$



Given	Given	Reflexive Prop
$\overline{JM} \parallel \overline{LK}$	$\angle J \cong \angle L$	$\overline{MK} \cong \overline{MK}$
ALT Int		
$\angle JMK \cong \angle LKM$		
	AAS	
	$\triangle JMK \cong \triangle LKM$	
	CPCTC	
	$\overline{JK} \cong \overline{ML}$	