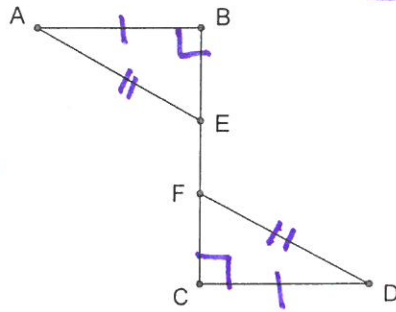


*\* Do this practice page if time allows*  
 Unit 4B Day 4: More Practice with Proofs

1. Given:  $\overline{AB} \cong \overline{CD}$   
 $\overline{AB} \perp \overline{BC}$   
 $\overline{CD} \perp \overline{BC}$   
 $\overline{AE} \cong \overline{CF}$   
 Prove:  $\angle A \cong \angle D$



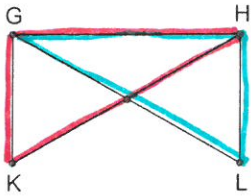
□ Fix

*\* Do as a flow proof*

Flowchart for problem 1:

- Given:  $\overline{AB} \cong \overline{CD}$
- Given:  $\overline{AB} \perp \overline{BC}$  →  $\angle B$  is a right  $\angle$  (Defn of  $\perp$ )
- Given:  $\overline{CD} \perp \overline{BC}$  →  $\angle C$  is a right angle (Defn of  $\perp$ )
- From above:  $\angle B \cong \angle C$  (All right  $\angle$ s are  $\cong$ )
- Given:  $\overline{AE} \cong \overline{CF}$
- From  $\angle B \cong \angle C$  and  $\overline{AE} \cong \overline{CF}$ :  $\triangle ABE \cong \triangle CDF$  (HL Theorem)

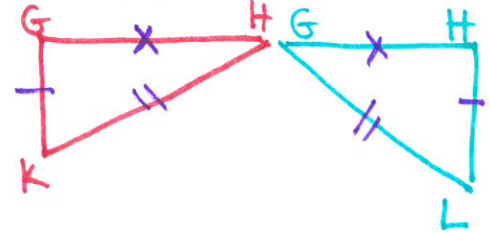
2. Given:  $\overline{GK} \cong \overline{HL}$   
 $\overline{GL} \cong \overline{HK}$   
 Prove:  $\angle K \cong \angle L$



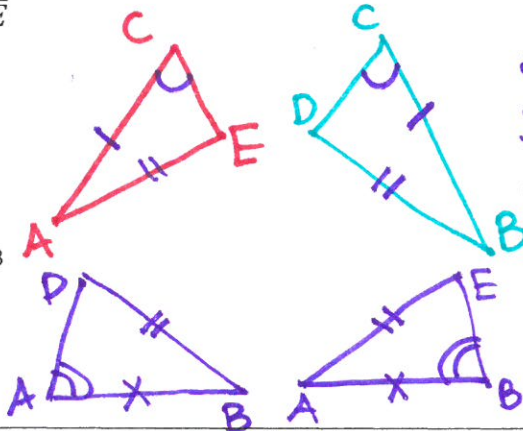
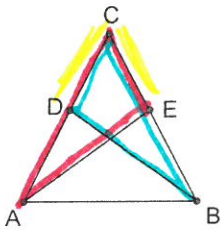
*\* Do as a flow proof*

Flowchart for problem 2:

- Given:  $\overline{GK} \cong \overline{HL}$
- Given:  $\overline{GL} \cong \overline{HK}$
- Reflexive Prop.:  $\overline{GH} \cong \overline{GH}$
- From above:  $\triangle GKH \cong \triangle HGL$  (SSS  $\cong$  Postulate)
- From above:  $\angle K \cong \angle L$  (CPCTC)



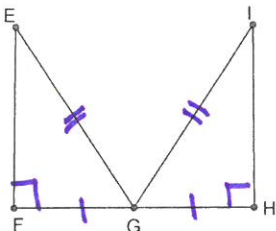
3. Given:  $\overline{AC} \cong \overline{BC}$   
 $\overline{AE} \cong \overline{BD}$   
 Prove:  $\overline{CD} \cong \overline{CE}$



- |  |   |
|--|---|
| 1) $\overline{AC} \cong \overline{BC}$ | 1) Given  |
| 2) $\overline{AE} \cong \overline{BD}$ | 2) Given  |
| 3) $\angle C \cong \angle C$           | 3) Reflexive Prop.                                |
| 4) $\angle CAB \cong \angle CBA$       | 4) Base angles of isos. $\triangle$ s are $\cong$ |

*\* \* SKIP*  
*Missing a given piece*

4. Given:  $\angle F$  and  $\angle H$  are right angles  
 G is the midpoint of  $\overline{FH}$   
 $\overline{EG} \cong \overline{LG}$   
 Prove:  $\angle E \cong \angle L$



- Flowchart for problem 4:
- $\angle F$  and  $\angle H$  are right  $\angle$ s, G is mdpt of  $\overline{FH}$ ,  $\overline{EG} \cong \overline{LG}$
  - $\overline{FG} \cong \overline{HG}$
  - $\triangle EGF \cong \triangle LGH$
  - $\angle E \cong \angle L$

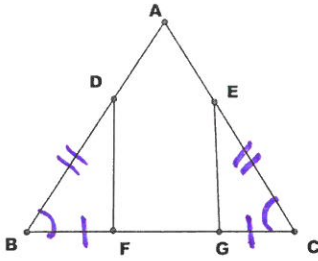
- Proof steps for problem 4:
- Given
  - Defn of mdpt
  - HL Theorem
  - CPCTC

5. Given:  $\angle B \cong \angle C$

$$\overline{BF} \cong \overline{GC}$$

$$\overline{BD} \cong \overline{EC}$$

Prove:  $\angle BDF \cong \angle CEG$



$$1) \angle B \cong \angle C,$$

$$\overline{BF} \cong \overline{GC},$$

$$\overline{BD} \cong \overline{EC}$$

$$2) \triangle BDF \cong \triangle CEG$$

$$3) \angle BDF \cong \angle CEG$$

1) Given

2) SAS  $\cong$  Postulate

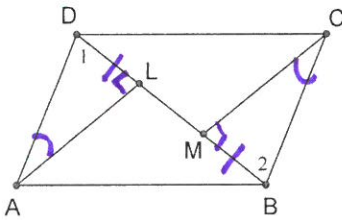
3) CPCTC

6. Given:  $\angle DAL \cong \angle BCM$

$$\overline{DL} \cong \overline{MB}$$

$\angle ALD$  and  $\angle CMB$  are right angles

Prove:  $\overline{AL} \cong \overline{CM}$



$$1) \angle DAL \cong \angle BCM,$$

$$\overline{DL} \cong \overline{MB},$$

$\angle ALD$  and  $\angle CMB$   
are right angles

$$2) \angle ALD \cong \angle CMB$$

$$3) \triangle ALD \cong \triangle CMB$$

$$4) \overline{AL} \cong \overline{CM}$$

1) Given

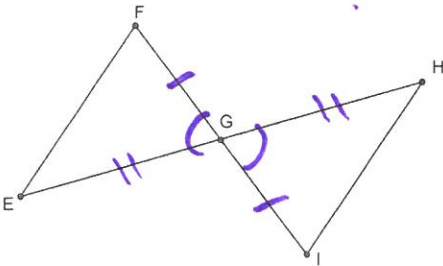
2) All right  $\angle$ s  
are  $\cong$

3) AAS  $\cong$  Theorem

4) CPCTC

7. Given:  $\overline{FI}$  and  $\overline{HE}$  bisect each other

Prove:  $\angle E \cong \angle H$



1)  $\overline{FI}$  and  $\overline{HE}$   
bisect each  
other

$$2) \overline{FG} \cong \overline{IG},$$

$$\overline{EG} \cong \overline{HG}$$

$$3) \angle FGE \cong \angle IGH$$

$$4) \triangle FGE \cong \triangle IGH$$

$$5) \angle E \cong \angle H$$

1) Given

2) Definition  
of bisect

3) Vertical  $\angle$ s are  $\cong$

4) SAS  $\cong$  Postulate

5) CPCTC