

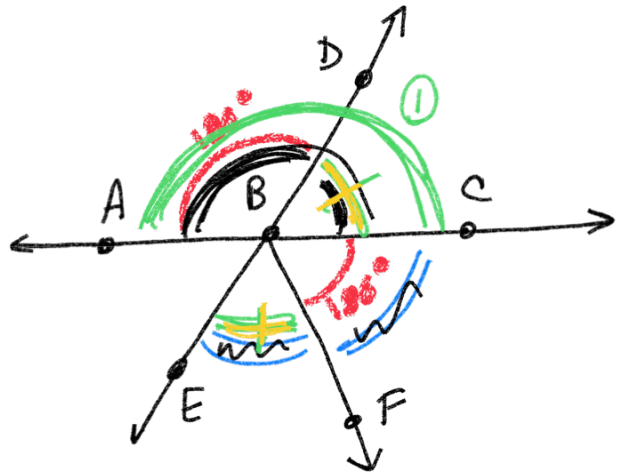
TH-6 Geometry Week 11

Given

BF is an angle bisector

$\angle EBF \cong \angle DBC$

Prove $\angle CBF$ & $\angle DBA$ are supplementary



Statement

BF is an angle bisector

$\angle EBF \cong \angle CBF$

$\angle EBF \cong \angle DBC$

$\angle DBC + \angle DBA = 180^\circ$

$\angle EBF + \angle DBA = 180^\circ$

$\angle CBF + \angle DBA = 180^\circ$

$\angle CBF$ & $\angle DBA$ are supplementary

Reasons

Given

Def of angle bisector

Given

- linear pair
- supplementary angles

Substitution

substitution

Def of supplemental angles

Given

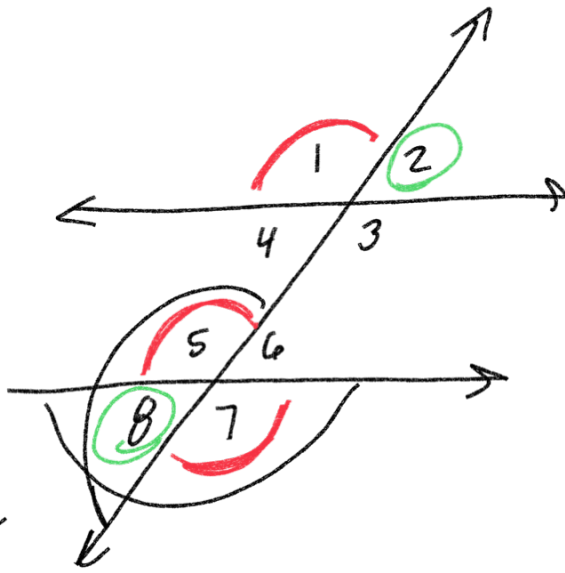
$$\angle 1 \cong \angle 5$$

$$\angle 5 \cong \angle 7$$

Prove

$\angle 2$ and $\angle 8$

are supplementary



Statements

$\angle 1$ & $\angle 2$ are supplemental

$\angle 5$ & $\angle 8$ are supplemental

$$\angle 1 \cong \angle 5$$

$\angle 2$ & $\angle 8$ are supplemental

Reasons

linear pair

linear pair

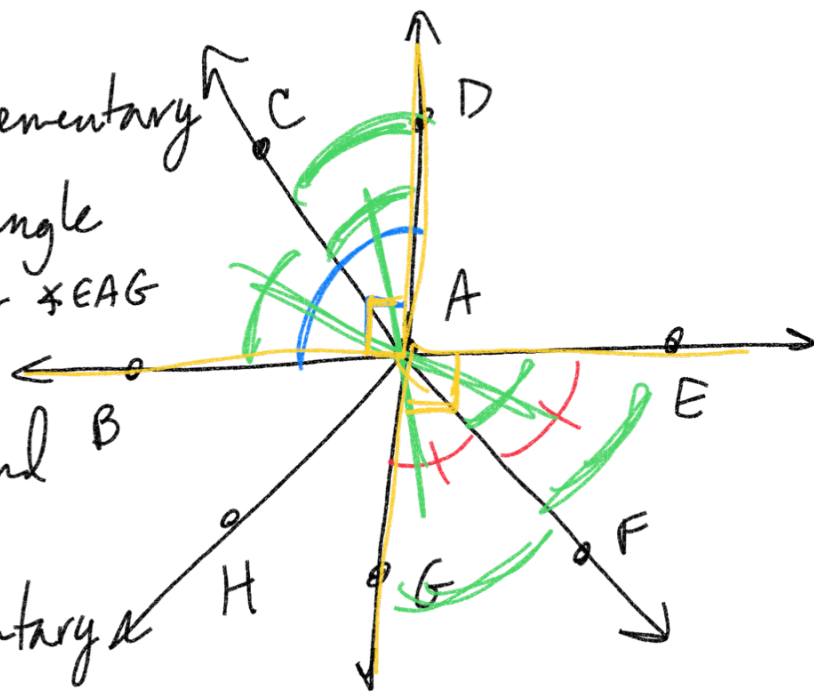
Given

substitution

$\angle BAC$ & $\angle DAC$
are complementary

\overline{AF} is an angle
bisector for $\angle EAG$

Prove $\angle EAF$ and
 $\angle DAC$ are
complementary



Statements

$\angle BAC$ & $\angle DAC$ are
complementary

$$\angle BAC + \angle DAC = 90$$

\overline{AF} is angle bisector
of $\angle EAG$

$$\angle EAF \cong \angle FAG$$

$$\angle DAC \cong \angle FAG$$

$$\angle BAC \cong \angle EAF$$

$$\angle EAF + \angle DAC = 90$$

$\angle EAF$ & $\angle DAC$ are comp

Reasons

Given

Def of complement
 \angle 's

Given

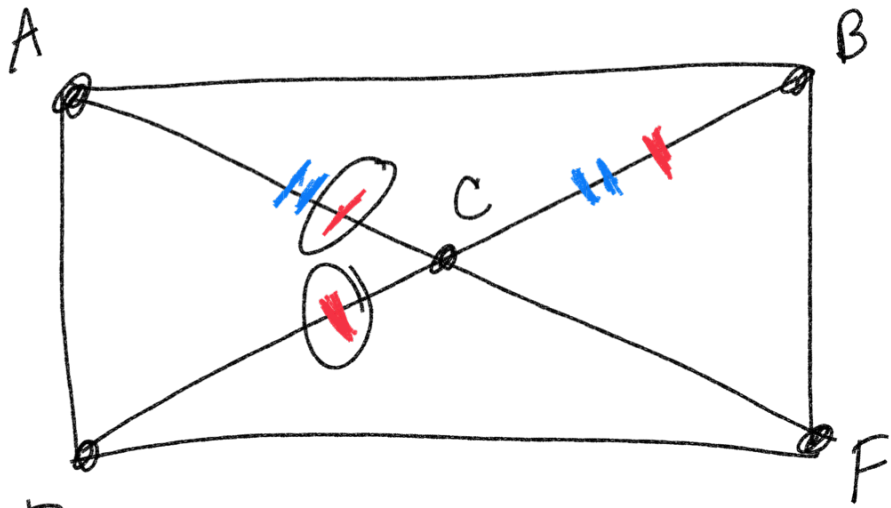
Def of angle
bisector

Vertical Angles

Vertical Angles

Substitution

Def of comp
angles



Given:

C is a segment bisector of \overline{BD}

$$\overline{AC} \cong \overline{BC}$$

Prove

$$\overline{DC} \cong \overline{AC}$$

Statement

Reason

C is segment bisector
of \overline{BD}

Given

$$\overline{DC} \cong \overline{CB}$$

Def segment bisector

$$\overline{AC} \cong \overline{BC}$$

Given

$$\overline{DC} \cong \overline{AC}$$

Substitution or
transitive property

HW
ch 2 Test