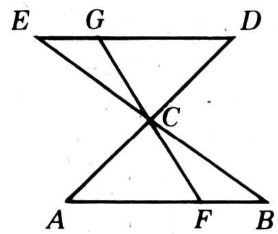
Name: ______________________ Date: ______________ Row: _____ Period: ____

Assignment #: _____

Using More than One Pair of Congruent Triangles

For use after Section 4–6

Give the reason for each key step of the proof.

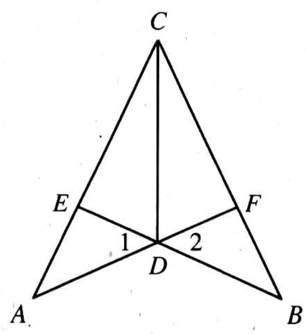


1. Given: $\overline{AD}$ and $\overline{BE}$ bisect each other at C.
Prove: $\overline{GC} \cong \overline{FC}$

Key steps of proof:

1. $\overline{DC} \cong \overline{AC}$; $\overline{EC} \cong \overline{BC}$ — 1. ______________________
2. $\angle ECD \cong \angle BCA$ — 2. ______________________
3. $\triangle DCE \cong \triangle ACB$ — 3. ______________________
4. $\angle D \cong \angle A$ — 4. ______________________
5. $\angle DCG \cong \angle ACF$ — 5. ______________________
6. $\triangle GCD \cong \triangle FCA$ — 6. ______________________
7. $\overline{GC} \cong \overline{FC}$ — 7. ______________________

2. Given: $\overline{AC} \cong \overline{BC}$
$\overline{AD} \cong \overline{BD}$
Prove: $\angle CED \cong \angle CFD$



Key steps of proof:

1. $\triangle ACD \cong \triangle BCD$ — 1. ______________________
2. $\angle A \cong \angle B$ — 2. ______________________
3. $\angle 1 \cong \angle 2$ — 3. ______________________
4. $\triangle AED \cong \triangle BFD$ — 4. ______________________
5. $\angle AED \cong \angle BFD$ — 5. ______________________
6. $\angle CED \cong \angle CFD$ — 6. ______________________

3. In the diagram above, if you are given that $\overline{AC} \cong \overline{BC}$ and $\angle A \cong \angle B$, can you prove that $\triangle AFC \cong \triangle BEC$? If so, by what postulate? ______________________