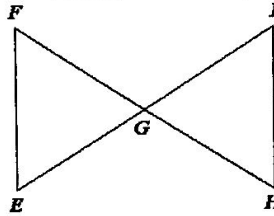# More with Proofs Homework

Justify why each set of triangles are congruent:

Step 1: **Mark** given information on the diagram.

Step 2: **Mark** what else you know is congruent.

1:     *Given:* G is the midpoint of both $\overline{EI}$ and $\overline{FH}$.

      Prove: $\triangle FEG \cong \triangle HIG$

PROOF:

Step 3: ▲_____ is congruent to ▲_____ because of _____

Step 4: How do you know the 3 pairs of parts are congruent?

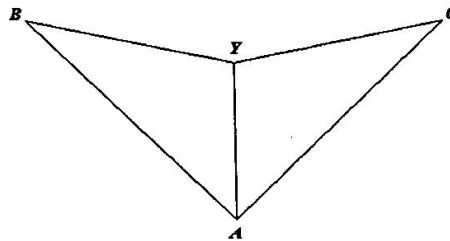- Sides or Angles _____ are congruent because

  _____

- Sides or Angles _____ are congruent because

  _____

- Sides or Angles _____ ARE congruent because

  _____

2:     *Given:* $\overline{AB} \cong \overline{AC}$ and $\overline{BY} \cong \overline{CY}$

      Prove: $\triangle BYA \cong \triangle CYA$

PROOF:

Step 3: ▲_____ is congruent to ▲_____ because of _____

Step 4: How do you know the 3 pairs of parts are congruent?

- Sides or Angles _____ are congruent because

  _____

- Sides or Angles _____ are congruent because

  _____
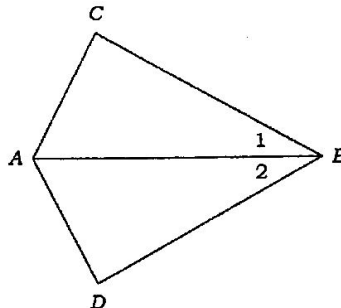
- Sides or Angles _____ are congruent because

  _____

3:

Given: $\overline{AB}$ bisects $\angle CAD$

$\angle 1 \cong \angle 2$

Prove: $\triangle CAB \cong \triangle DAB$

PROOF:

Step 3: ▲_____ is congruent to ▲_____ because of _____

Step 4: How do you know the 3 pairs of parts are congruent?

• Sides or Angles _____ are congruent because

_____

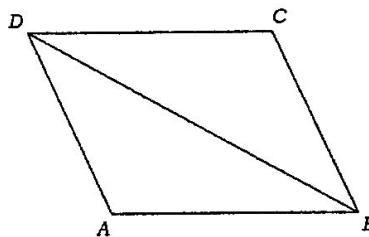• Sides or Angles _____ are congruent because

_____

• Sides or Angles _____ are congruent because

_____

4:

Given: $\overline{AD} \parallel \overline{CB}$

$\angle A \cong \angle C$

Prove: $\triangle DCB \cong \triangle BAD$

PROOF:

Step 3: ▲_____ is congruent to ▲_____ because of _____

Step 4: How do you know the 3 pairs of parts are congruent?

• Sides or Angles _____ are congruent because

_____

• Sides or Angles _____ are congruent because

_____

• Sides or Angles _____ are congruent because

_____