

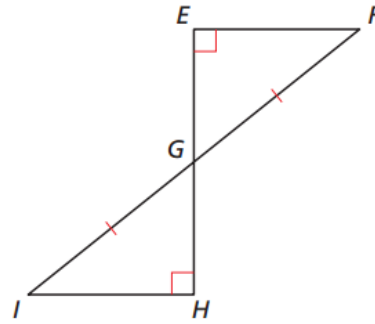
**HW #5-7: Alternate Proof for #14**

**Given:**  $G$  is the midpoint of  $\overline{EH}$

$$\overline{FG} \cong \overline{IG}$$

$\angle E$  and  $\angle H$  are right angles

**Prove:**  $\triangle EFG \cong \triangle HIG$



| Statements                                                                                                                  | Reasons                       |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| $G$ is the midpoint of $\overline{EH}$<br>$\overline{FG} \cong \overline{IG}$<br>$\angle E$ and $\angle H$ are right angles | Given                         |
| $\overline{EG} \cong \overline{HG}$                                                                                         | Definition of a midpoint      |
| $\angle IGH \cong \angle FGE$                                                                                               | Vertical angles are congruent |
| $\triangle EFG \cong \triangle HIG$                                                                                         | SAS $\cong$ (1, 3, 2)         |