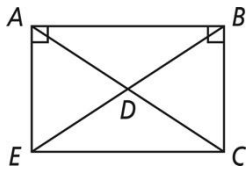
Name_____ Class _____ Date_____

4-7 Practice

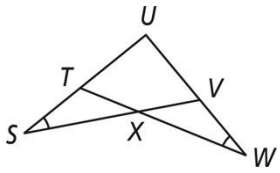
Form K

In each diagram, the stated triangles are congruent. Identify their common side or angle.

1. $\Delta BAE \cong \Delta ABC$

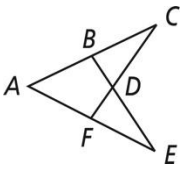


2. $\Delta SUV \cong \Delta WUT$

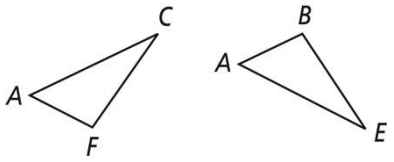


Separate and redraw the indicated triangles. Identify any common angles or sides.

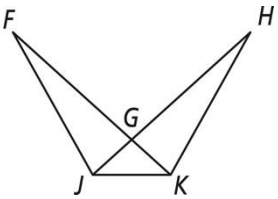
3. ΔACF and ΔAEB



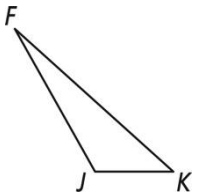
To start, redraw each triangle separately.



4. ΔFKJ and ΔHJK



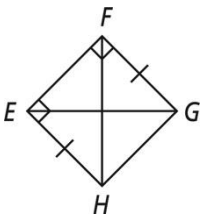
Complete the drawing to separate the triangles.



5. Developing Proof Complete the two-column proof.

Given: $m\angle FEH = m\angle GFE = 90$, $\overline{EH} \cong \overline{FG}$

Prove: $\overline{HF} \cong \overline{EG}$



Statements	Reasons
1) $m\angle FEH = m\angle GFE = 90$, $\overline{EH} \cong \overline{GF}$	1) Given
2) $\angle FEH \cong \angle EFG$	2) ?
3) $\overline{EF} \cong \overline{FE}$	3) ?
4) ?	4) SAS
5) $\overline{HF} \cong \overline{GE}$	5) ?

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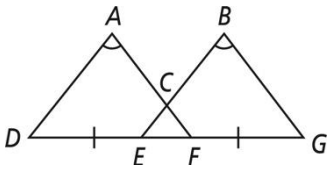
4-7 Practice (continued) *Form K*

6. Given: ΔAFD and ΔBGE are equilateral triangles.
$\angle A \cong \angle B$, $\overline{DE} \cong \overline{FG}$

Prove: $\overline{AD} \cong \overline{BE}$



Statements	Reasons
1) ΔAFD and ΔBGE are equilateral $\triangle$.	1) Given
2) $\angle A \cong \angle D \cong \angle AFD$	2) ?
3) $\angle B \cong \angle G \cong \angle BEG$	3) ?
4) $\angle A \cong \angle B$	4) Given
5) $\angle A \cong \angle D \cong \angle B \cong \angle G$	5) ?
6) $\overline{EF} \cong \overline{EF}$	6) ?
7) $\overline{DE} \cong \overline{FG}$	7) Given
8) $DE + EF = EF + FG$	8) ?
9) ?	9) Segment Add. Post.
10) ?	10) AAS
11) $\overline{AD} \cong \overline{BE}$	11) ?

9. The pattern at the right has been designed for a square floor tile. Both ΔACF and ΔDBG are 30°-60°-90° right triangles. Write a paragraph proof to prove that ΔFGE is an equilateral triangle.