Practice 8-4

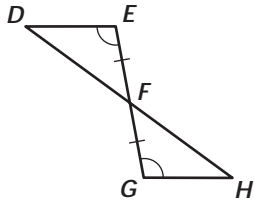••

Example Exercises

Example 1

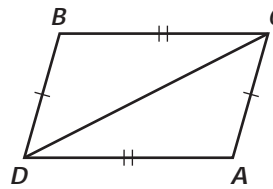**Write a two-column proof.**

1. Given: $\angle E \cong \angle G, \overline{EF} \cong \overline{FG}$

Prove: $\overline{HG} \cong \overline{DE}$

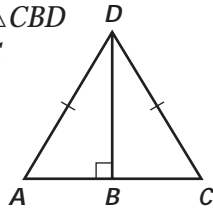**2.** Given: $\overline{BC} \cong \overline{AD}, \overline{AC} \cong \overline{BD}$
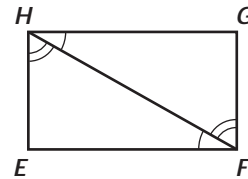
Prove: $\angle BCD \cong \angle ADC$

Example 2

Give a reason for each statement.

3. **a.** $\triangle ABD \cong \triangle CBD$
    b. $\angle A = \angle C$

4. **a.** $\triangle HEF \cong \triangle FGH$
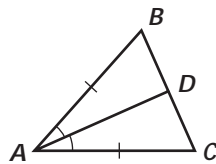   **b.** $\overline{HE} \cong \overline{GF}$

Example 3
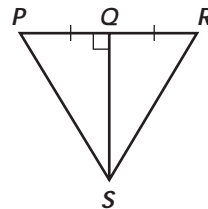
Write a paragraph proof.

5. Given: $\overrightarrow{AD}$ bisects $\angle BAC$, $\overline{AB} \cong \overline{AC}$.

Prove: $\angle B \cong \angle C$

6. Given: $\overline{SQ} \perp \overline{PR}, \overline{PQ} \cong \overline{QR}$

Prove: $\overline{PS} \cong \overline{RS}$

Example 4

7. Write a plan for the following proof.

Given: $\overrightarrow{DB}$ bisects $\angle ADC$, $\overline{BA} \perp \overrightarrow{DA}, \overline{BC} \perp \overrightarrow{DC}$.

Prove: $\overline{BA} \cong \overline{BC}$

•••