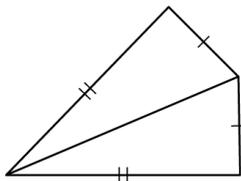


5.5

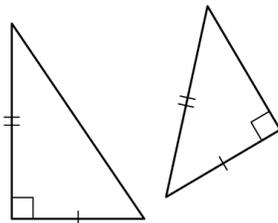
Practice A

In Exercises 1–3, decide whether enough information is given to prove that the triangles are congruent using either the SSS Congruence Theorem (Theorem 5.8) or the HL Congruence Theorem (Theorem 5.9). Explain.

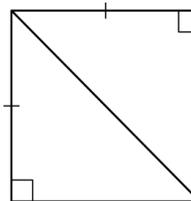
1.



2.

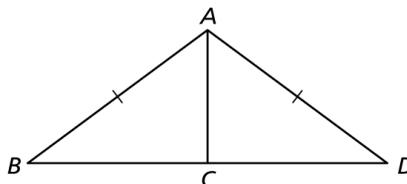


3.



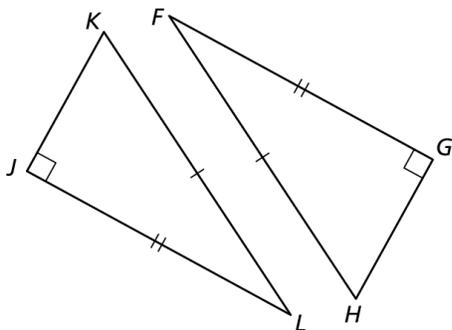
4. **Given:** \overline{AC} bisects \overline{BD} , $\overline{AB} \cong \overline{AD}$

Prove: $\triangle ABC \cong \triangle ADC$



5. **Given:** $\overline{JL} \cong \overline{GF}$, $\overline{KL} \cong \overline{HF}$, $\angle J$ and $\angle G$ are right angles.

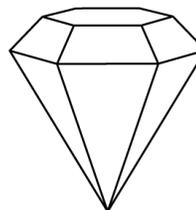
Prove: $\triangle JKL \cong \triangle GHF$



6. The coordinates of two triangles are given by $A(2, 3)$, $B(1, -2)$, $C(4, 5)$ and $F(-2, 2)$, $G(-4, 4)$, $H(-4, -4)$. Use the coordinates to determine whether $\triangle ABC \cong \triangle FGH$.

7. The figure shows a cut gem.

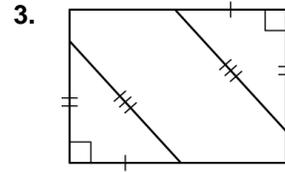
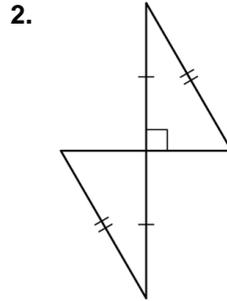
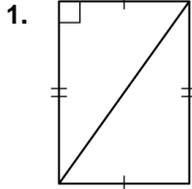
- What lengths can you measure to determine whether any two adjacent triangular faces of the gem are congruent?
- Assume that all of the triangular faces are congruent. What shape is the outline of the gem when viewed from above?



5.5

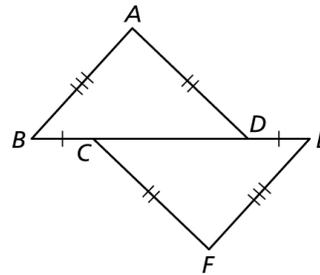
Practice B

In Exercises 1–3, decide whether enough information is given to prove that the triangles are congruent. If so, state the theorem you use.



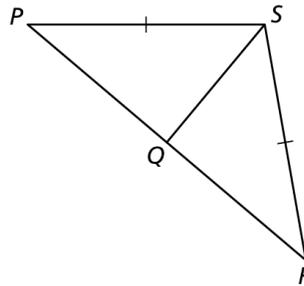
4. **Given:** $\overline{BC} \cong \overline{ED}$, $\overline{AB} \cong \overline{FE}$, and $\overline{AD} \cong \overline{FC}$

Prove: $\triangle ABD \cong \triangle FEC$



5. **Given:** $\overline{PS} \cong \overline{RS}$, $\overline{SQ} \perp \overline{PR}$

Prove: $\triangle PSQ \cong \triangle RSQ$



6. Two triangles are formed by the four lines described below. Both triangles share lines a and b . A side of one triangle is contained in line c , and a side of the other triangle is contained in line d . How can you use this information to determine whether the triangles are congruent?

Line a : $y = 3x + 2$

Line b : $y = -\frac{1}{3}x - 1$

Line c : passes through points $(1, 5)$ and $(3, -2)$

Line d : passes through points $(-6, 1)$ and $(-3, -7)$