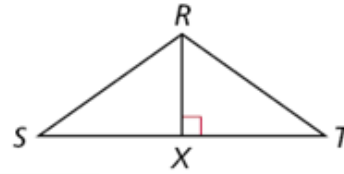## Advanced Geometry Practice – Proofs Involving Congruent Triangles and CPCTC

1.

Given: X is the midpoint of $\overline{ST}$. $\overline{RX} \perp \overline{ST}$
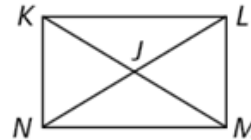
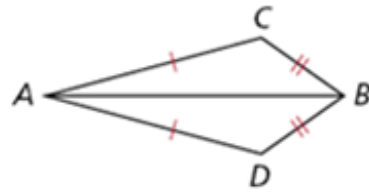**Prove:** $\overline{RS} \cong \overline{RT}$

2.

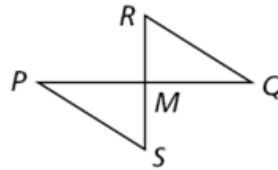**Given:** J is the midpoint of $\overline{KM}$ and $\overline{NL}$.

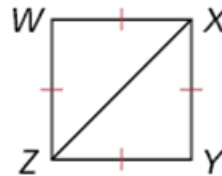**Prove:** $\overline{KL} \parallel \overline{MN}$

3. **Given:** $\overline{AC} \cong \overline{AD}$, $\overline{CB} \cong \overline{DB}$
   Prove: $\overline{AB}$ bisects $\angle CAD$.

4. **Given:** M is the midpoint of $\overline{PQ}$ and $\overline{RS}$.
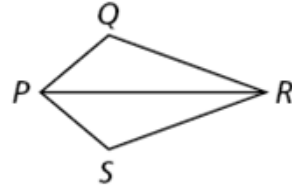   **Prove:** $\overline{QR} \cong \overline{PS}$

5. **Given:** $\overline{WX} \cong \overline{XY} \cong \overline{YZ} \cong \overline{ZW}$
   Prove: $\angle W \cong \angle Y$

6.

Given: $\overline{PR}$ bisects $\angle QPS$ and $\angle QRS$.
Prove: $\overline{PQ} \cong \overline{PS}$

7.

Given: $\overline{EG} \parallel \overline{DF}$, $\overline{EG} \cong \overline{DF}$
Prove: $\overline{ED} \parallel \overline{GF}$