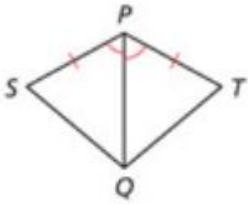
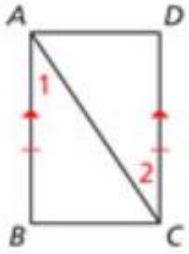
12.3 Proofs

15. **Given** $\overline{PQ}$ bisects $\angle SPT, \overline{SP} \cong \overline{TP}$
Prove $\triangle SPQ \cong \triangle TPQ$



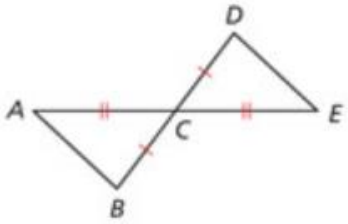
Statement	Reason
1. $\overline{PQ}$ bisects $\angle STP$	1.
2. $\angle SPQ \cong \angle TPQ$	2.
3.	3. Given
4.	4. Reflexive
5.	5.

16. **Given** $\overline{AB} \cong \overline{CD}, \overline{AB} \parallel \overline{CD}$
Prove $\triangle ABC \cong \triangle CDA$



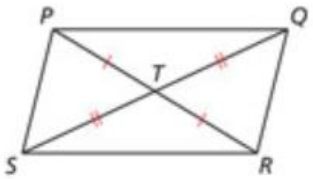
Statement	Reason
1.	1. Given
2.	2. Given
3. $\angle 1 \cong \angle 2$	3.
4. $\overline{AC} \cong \overline{AC}$	4.
5.	5.

17. **Given** C is the midpoint of $\overline{AE}$ and $\overline{BD}$.
Prove $\triangle ABC \cong \triangle EDC$



Statement	Reason
1.	1.
2.	2. Def. mid pt.
3.	3.
4. $\triangle ABC \cong \triangle EDC$	4.

18. **Given** $\overline{PT} \cong \overline{RT}, \overline{QT} \cong \overline{ST}$
Prove $\triangle PQT \cong \triangle RST$



Statement	Reason
1.	1.
2.	2.
3.	3.