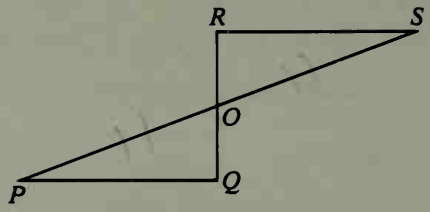
Written Exercises

Copy and complete the proof.

A **1.** Given: $\angle P \cong \angle S$;
O is the midpoint of $\overline{PS}$.
Prove: O is the midpoint of $\overline{RQ}$.

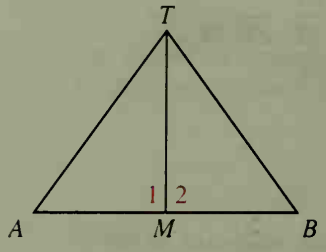


Proof:

Statements	Reasons
1. $\angle P \cong \angle S$	1. ?
2. O is the midpoint of $\overline{PS}$.	2. ?
3. $\overline{PO} \cong \overline{SO}$	3. ?
4. $\angle POQ \cong \angle SOR$	4. ?
5. $\triangle POQ \cong \triangle SOR$	5. ?
6. $\overline{QO} \cong \overline{RO}$	6. ?
7. O is the midpoint of $\overline{RQ}$.	7. ?

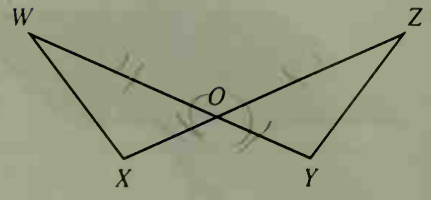
The statements in Exercise 2 might be used as statements in a proof but they are given out of order. Find an appropriate order for the statements. (There may be more than one correct order.)

2. Given: $\overline{AM} \cong \overline{BM}$; $\overline{TM} \perp \overline{AB}$
Prove: $\overline{AT} \cong \overline{BT}$
(a) $\overline{AM} \cong \overline{BM}$
(b) $\triangle AMT \cong \triangle BMT$
(c) $\angle 1 \cong \angle 2$
(d) $\overline{AT} \cong \overline{BT}$
(e) $\overline{TM} \perp \overline{AB}$
(f) $\overline{TM} \cong \overline{TM}$



Write proofs in two-column form.

3. Given: $\overline{WO} \cong \overline{ZO}$; $\overline{XO} \cong \overline{YO}$
Prove: $\angle W \cong \angle Z$



4. Given: M is the midpoint of $\overline{AB}$;
$\angle 1 \cong \angle 2$; $\angle 3 \cong \angle 4$
Prove: $\overline{AC} \cong \overline{BD}$