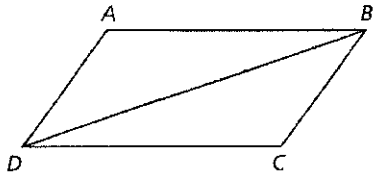
Packet N

PRACTICE

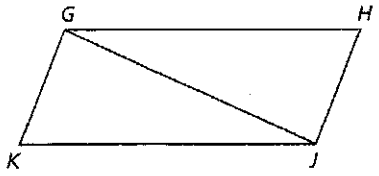
In Exercises 1–2, complete the two-column proof.

1. **Given:** $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{CB}$
Prove: $\triangle ABD \cong \triangle CBD$



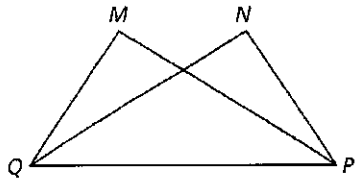
Statements	Reasons
1. $\overline{AB} \cong \overline{CD}$	1.
2. $\overline{AD} \cong \overline{CB}$	2.
3.	3.
4. $\triangle ABD \cong \triangle CBD$	4.

2. **Given:** $\overline{GH} \parallel \overline{JK}$, $\overline{GH} \cong \overline{JK}$
Prove: $\triangle HGJ \cong \triangle KJG$



Statements	Reasons
1. $\overline{GH} \parallel \overline{JK}$	1.
2. $\angle HGJ \cong \angle KJG$	2.
3.	3. Given
4. $\overline{GJ} \cong \overline{GJ}$	4.
5.	5.

3. **a.** Write a two-column proof in the table provided at right. You may not need to use all the rows of the table for your proof.
Given: $\angle MQP \cong \angle NPQ$, $\angle MPQ \cong \angle NQP$
Prove: $\triangle MQP \cong \triangle NPQ$

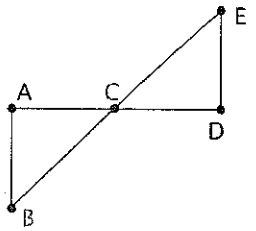


Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

b. What additional congruence statements can you write using CPCTC?

3. Given: $\overline{EC} \cong \overline{BC}$,
$\measuredangle A$ and $\measuredangle D$ are right angles

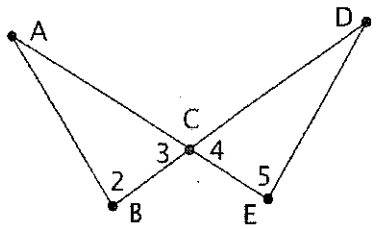
Prove: $\triangle ABC \cong \triangle DEC$



Statements	Reasons
1. _____	1. Given
2. $\measuredangle A$ and $\measuredangle D$ are right angles	2. _____
3. _____	3. Right angles are congruent.
4. _____	4. Vertical angles are congruent.
5. $\triangle ABC \cong \triangle DEC$	5. _____

4. Given: $\measuredangle 2 \cong \measuredangle 5$, $\overline{BC} \cong \overline{EC}$

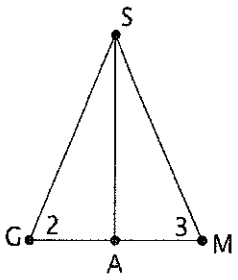
Prove: $\triangle ABC \cong \triangle DEC$



Statements	Reasons
1. $\measuredangle 2 \cong \measuredangle 5$	1. Given
2. _____	2. _____
3. _____	3. _____
4. _____	4. ASA

5. Given: $\measuredangle 2 \cong \measuredangle 3$,
$\overline{SA}$ bisects $\measuredangle GSM$

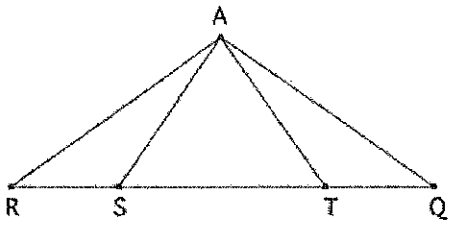
Prove: $\triangle GSA \cong \triangle MSA$



Statements	Reasons
1. $\measuredangle 2 \cong \measuredangle 3$	1. _____
2. $\overline{SA}$ bisects $\measuredangle GSM$	2. _____
3. _____	3. An angle bisector forms 2 congruent angles.
4. _____	4. _____
5. _____	5. AAS

8. Given: $\overline{AR} \cong \overline{AQ}$, $\overline{RS} \cong \overline{QT}$

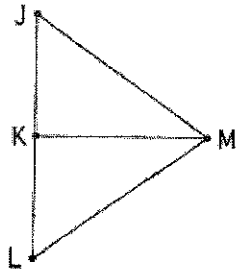
Prove: $\triangle ARS \cong \triangle AQT$



Statements	Reasons
1. $\overline{AR} \cong \overline{AQ}$	1. _____
2. _____	2. If 2 sides of a $\triangle$ are congruent then the opposite angles are congruent.
3. _____	3. Given
4. $\triangle ARS \cong \triangle AQT$	4. _____

9. Given: $\overline{JL} \perp \overline{KM}$, $\overline{JM} \cong \overline{LM}$

Prove: $\triangle JKM \cong \triangle LKM$



Statements	Reasons
1. $\overline{JL} \perp \overline{KM}$	1. _____
2. $\measuredangle JKM$ & $\measuredangle LKM$ are right angles	2. _____
3. $\overline{JM} \cong \overline{LM}$	3. _____
4. $\overline{KM} \cong \overline{KM}$	4. _____
$\triangle JKM \cong \triangle LKM$	5. _____