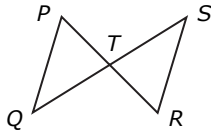


LESSON 42 Proofs with Congruent Triangles

Complete each proof.

1. Given: T bisects \overline{PR} & \overline{QS} .
 $\overline{PQ} \cong \overline{RS}$

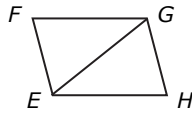
Prove: $\triangle PQT \cong \triangle RST$



STATEMENTS	REASONS
1. $\overline{PQ} \cong \overline{RS}$	1. Given
2. T bisects \overline{PR} & \overline{QS} .	2. Given
3. $\overline{PT} \cong \overline{RT}$, $\overline{QT} \cong \overline{ST}$	3.
4. $\triangle PQT \cong \triangle RST$	4.

2. Given: $\overline{FG} \cong \overline{HE}$,
 $\overline{FG} \parallel \overline{EH}$

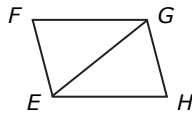
Prove: $\triangle EFG \cong \triangle GHE$



STATEMENTS	REASONS
1. $\overline{FG} \cong \overline{HE}$	1. Given
2. $\overline{FG} \parallel \overline{EH}$	2. Given
3. $\angle FGE \cong \angle HEG$	3.
4. $\overline{GE} \cong \overline{EG}$	4.
5. $\triangle EFG \cong \triangle GHE$	5.

3. Given: $\angle FEG \cong \angle HGE$,
 $\angle FGE \cong \angle HEG$

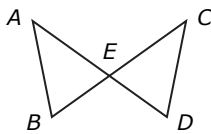
Prove: $\triangle EFG \cong \triangle GHE$



STATEMENTS	REASONS
1. $\angle FEG \cong \angle HGE$ $\angle FGE \cong \angle HEG$	1. Given
2. $\overline{GE} \cong \overline{EG}$	2.
3. $\triangle EFG \cong \triangle GHE$	3.

4. Given: $\overline{AB} \cong \overline{CD}$,
 $\angle A \cong \angle C$

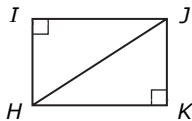
Prove: $\triangle ABE \cong \triangle CDE$



STATEMENTS	REASONS
1. $\overline{AB} \cong \overline{CD}$, $\angle A \cong \angle C$	1. Given
2. $\angle AEB \cong \angle CED$	2.
3. $\triangle ABE \cong \triangle CDE$	3.

5. Given: $\overline{HI} \cong \overline{JK}$,
 $\angle I$ & $\angle K$ are
right angles.

Prove: $\triangle HIJ \cong \triangle JKH$



STATEMENTS	REASONS
1. $\angle I$, $\angle K$ right \angle s.	1. Given
2. $\triangle HIJ$, $\triangle JKH$ right \triangle s.	2.
3. $\overline{HI} \cong \overline{JK}$	3. Given
4. $\overline{HJ} \cong \overline{JH}$	4.
5. $\triangle HIJ \cong \triangle JKH$	5.