

Geometry

Notes Section 4.7

Use Congruent Triangles

CPCTC : _____

EXAMPLE 1 Explain how you can use the given information to prove the the triangle's parts are congruent.

Given: $\angle 1 \cong \angle 2$, $\angle RTQ \cong \angle RTS$

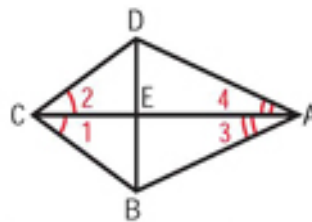
Prove: $QT \cong ST$



EXAMPLE 2 Complete the proof.

Given: $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$

Prove: $\triangle BCE \cong \triangle DCE$



1. $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$

2. $CA \cong CA$

3. $\triangle CBA \cong \triangle CDA$

4. $CB \cong CD$

5. $CE \cong CE$

6. $\triangle BCE \cong \triangle DCE$

1. _____

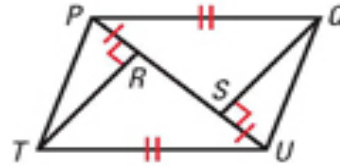
2. _____

3. _____

4. _____

5. _____

6. _____

EXAMPLE 3 Complete the proof.

Given: $PR \cong US, TU \cong QP$
 $PR \perp TR, US \perp QS$

Prove: $\triangle PTU \cong \triangle QUP$

- | | |
|---|-----------|
| 1. $PR \cong US, TU \cong QP$ | 1. _____ |
| 2. $PR \perp TR, US \perp QS$ | 2. _____ |
| 3. $\angle QSP$ & $\angle TRU$ are right angles | 3. _____ |
| 4. $RS \cong SR$ | 4. _____ |
| 5. $PR = US, RS = SR$ | 5. _____ |
| 6. $PR + RS = US + SR$ | 6. _____ |
| 7. $PR + RS = PS, US + SR = UR$ | 7. _____ |
| 8. $PS = UR$ | 8. _____ |
| 9. $PS \cong UR$ | 9. _____ |
| 10. $\triangle PSQ \cong \triangle URT$ | 10. _____ |
| 11. $SQ \cong RT$ | 11. _____ |
| 12. $\triangle TRP \cong \triangle QSU$ | 12. _____ |
| 13. $PT \cong UQ$ | 13. _____ |
| 14. $\triangle PTU \cong \triangle QUP$ | 14. _____ |