5.7 Using Congruent Triangles

Thursday, January 5, 2017 2:59 PM

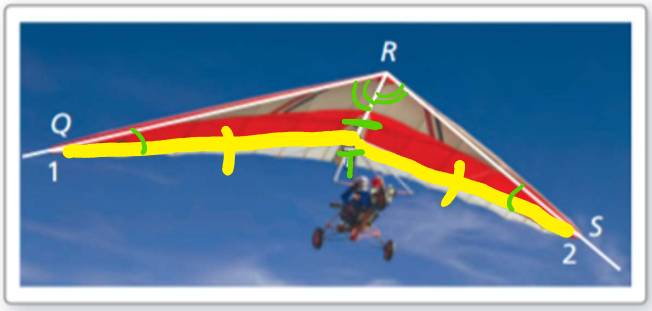
$\triangle ABC \cong \triangle DEF$

What You Will Learn

- Use congruent triangles.

$\angle A \cong \angle D$
$\angle B \cong \angle E$
$\angle C \cong \angle F$
$\overline{AB} \cong \overline{DE}$
$\overline{BC} \cong \overline{EF}$
$\overline{AC} \cong \overline{DF}$

Explain how you can use the given information to prove that the hang glider parts are congruent.

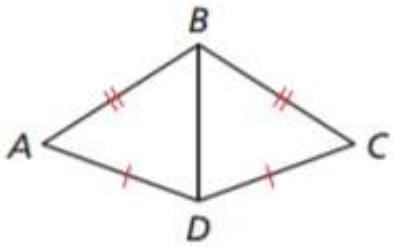


*CPCTC: Corresponding Parts of Congruent Triangles are Congruent

Given: $\angle Q \cong \angle S$, $\angle RTQ \cong \angle RTS$
Prove: $\overline{QT} \cong \overline{ST}$

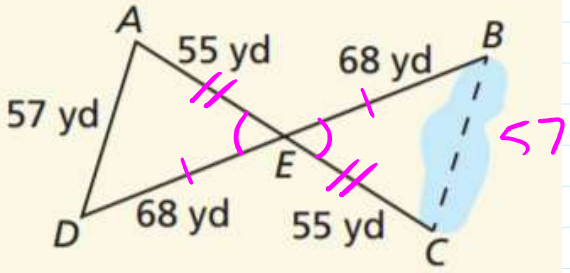
$\angle Q \cong \angle S$	given
$\angle RTQ \cong \angle RTS$	given
$\overline{RT} \cong \overline{RT}$	Reflexive PoC
$\triangle QRT \cong \triangle SRT$	AAS
$\overline{QT} \cong \overline{ST}$	CSCTC

1. Explain how you can prove that $\angle A \cong \angle C$.

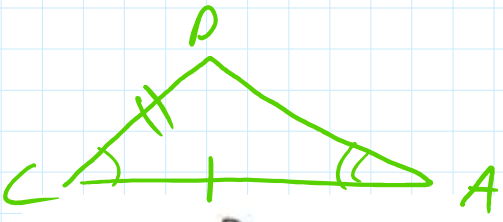


because SSS, 2 triangles are congruent, then by CPCTC, $\angle A \cong \angle C$.

Explain how to use the measurements in the diagram to find the distance across the pond.

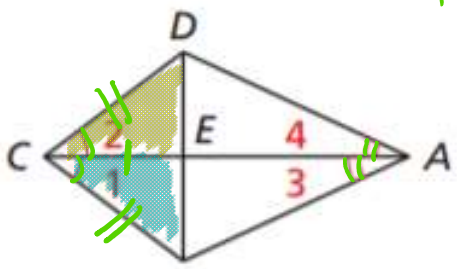


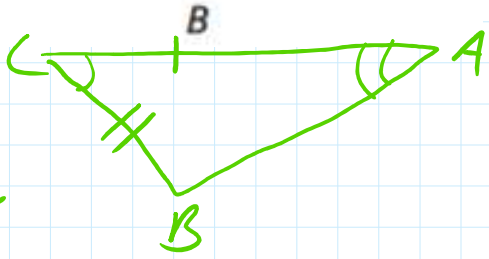
by SAS th. $\triangle$'s are $\cong$ ∴
by CPCTC $AD = BC$



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

Prove $\triangle BCE \cong \triangle DCE$





$\angle 1 \cong \angle 2$	given
$\angle 3 \cong \angle 4$	given
$\overline{CE} \cong \overline{CE}$	Reflexive PoC
$\overline{CA} \cong \overline{CA}$	Reflexive PoC
$\triangle CAB \cong \triangle CAD$	ASA
$\overline{CB} \cong \overline{CD}$	CPCTC
$\triangle BCE \cong \triangle DCE$	SAS

Practice *sec 5.7* **pg. 281: 1-11EO, 17**

(Write a proof, not just a plan for a proof for 3-11 and 17)