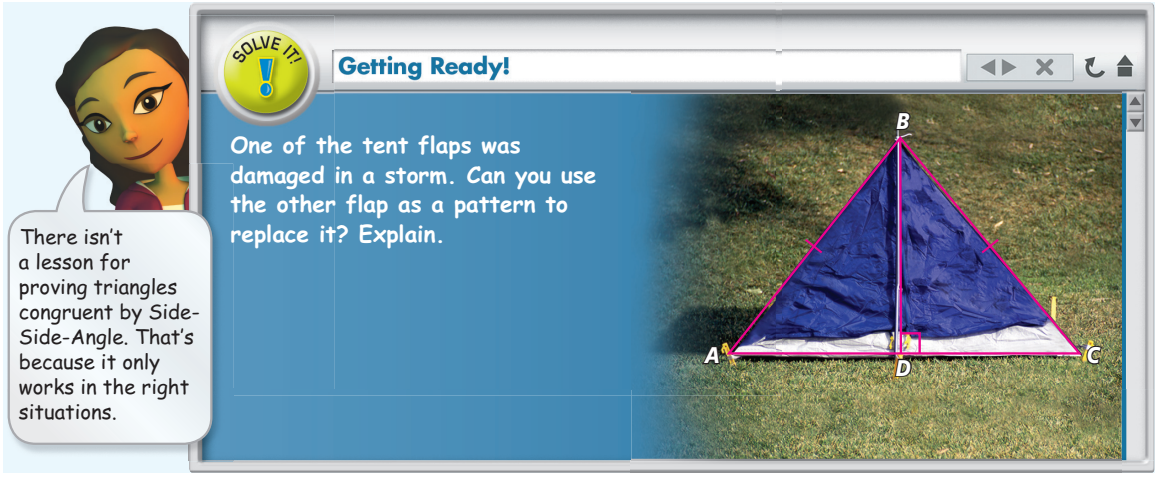
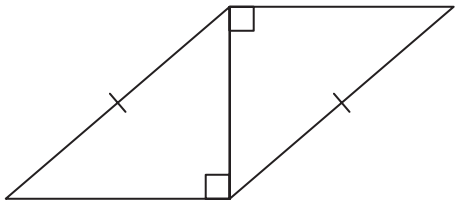
4-6 Solve It!



4-6 Lesson Quiz

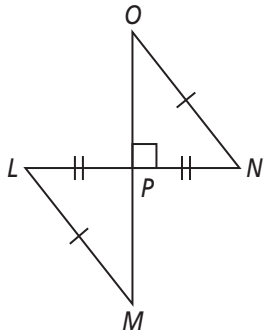
1. Are the triangles shown below congruent? Explain.



2. Do you UNDERSTAND?

Given: $\overline{ON} \cong \overline{ML}$, $\overline{LP} \cong \overline{PN}$, $\angle OPN$ is a right angle.

Prove: $\triangle OPN \cong \triangle MPL$



Answers

Solve It!

Yes; $\overline{AB} \cong \overline{CB}$ (Given). By the Isosc. $\triangle$ Thm., $\angle A \cong \angle C$ and $\angle BDC \cong \angle BDA$ (All rt. $\measuredangle$ are $\cong$.), so $\triangle ABD \cong \triangle CBD$ by AAS.

Lesson Quiz

1. yes, by the HL Theorem

2. It is given that $\overline{ON} \cong \overline{ML}$, $\overline{LP} \cong \overline{PN}$, and $\angle OPN$ is a right angle. $\angle OPN \cong \angle LPM$ by Vertical Angles Theorem. $m\angle OPN = m\angle LPM$ by the def. of cong. angles. $m\angle OPN = 90$ by the def. of right angles. $m\angle LPM = 90$ by subst. $\angle LPM$ is a right angle by the def. of right angles. $\triangle OPN$ and $\triangle MPL$ are right triangles. So, $\triangle OPN \cong \triangle MPL$ by HL.