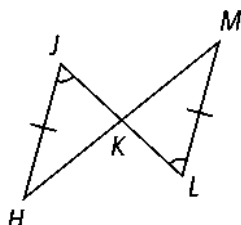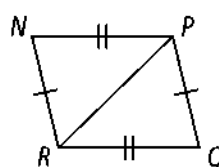# 4-4

Practice

Form G

Using Corresponding Parts of Congruent Triangles

For each pair of triangles, tell why the two triangles are congruent. Give the congruence statement. Then list all the other corresponding parts of the triangles that are congruent.
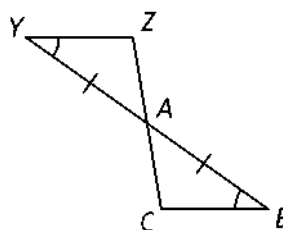
1.

2.

3. Complete the proof.

Given: $\overline{YA} \cong \overline{BA}$, $\angle B \cong \angle Y$

Prove: $\overline{AZ} \cong \overline{AC}$

Statements	Reasons
1) $\overline{YA} \cong \overline{BA}$, $\angle B \cong \angle Y$	1) _?_
2) $\angle YAZ$ and $\angle BAC$ are vertical angles.	2) Definition of vertical angles
3) $\angle YAZ \cong \angle BAC$	3) _?_
4) _?_	4) _?_
5) _?_	5) _?_

4-4 **Practice** (continued)   *Form G*
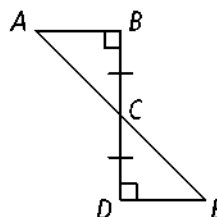
Using Corresponding Parts of Congruent Triangles

5. Complete the proof.

   Given: $\overline{BD} \perp \overline{AB}$, $\overline{BD} \perp \overline{DE}$, $\overline{BC} \cong \overline{DC}$
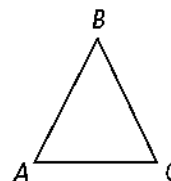
   Prove: $\angle A \cong \angle E$

Statements	Reasons
1) $\overline{BD} \perp \overline{AB}$, $\overline{BD} \perp \overline{DE}$	1) _?_
2) $\angle CDE$ and $\angle CBA$ are right angles.	2) Definition of right angles
3) $\angle CDE \cong \angle CBA$	3) _?_
4) _?_	4) Vertical angles are congruent.
5) $\overline{BC} \cong \overline{DC}$	5) _?_
6) _?_	6) _?_
7) $\angle A \cong \angle E$	7) _?_

6. Construction Use a construction to prove that the two base angles of an isosceles triangle are congruent.

   Given: Isosceles $\triangle ABC$ with base $\overline{AC}$

   Prove: $\angle A \cong \angle C$

Statements	Reasons
1) $\triangle ABC$ is isosceles.	1) _?_
2) $\overline{AB} \cong \overline{CD}$	2) Definition of isosceles triangle.
3) Construct the midpoint of $\overline{AC}$ and call it *D.* Construct $\overline{DB}$.	3) Construction
4) _?_	4) Definition of midpoint
5) $\overline{BD} \cong \overline{BD}$	5) _?_
6) $\triangle ABD \cong \triangle CBD$	6) _?_
7) _?_	7) _?_