# 4-2 Triangle Congruence by SSS and SAS

**Content Standard**
**G.SRT.5** Use congruence . . . criteria for triangles to solve problems and prove relationships in geometric figures.

**Objective** To prove two triangles congruent using the SSS and SAS Postulates

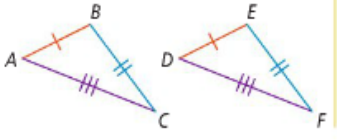
**Essential Understanding** You can prove that two triangles are congruent without having to show that *all* corresponding parts are congruent. In this lesson, you will prove triangles congruent by using (1) three pairs of corresponding sides and (2) two pairs of corresponding sides and one pair of corresponding angles.

take note

**Postulate 4-1 Side-Side-Side (SSS) Postulate**

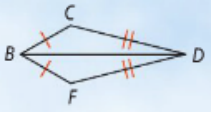
**Postulate**
If the three sides of one triangle are congruent to the three sides of another triangle, then the two triangles are congruent.

**If . . .**
$\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, $\overline{AC} \cong \overline{DF}$




**Then . . .**
$\triangle ABC \cong \triangle DEF$

**1. Given:** $\overline{BC} \cong \overline{BF}$, $\overline{CD} \cong \overline{FD}$
**Prove:** $\triangle BCD \cong \triangle BFD$

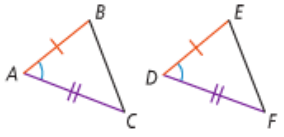


take note

## Postulate 4-2 Side-Angle-Side (SAS) Postulate

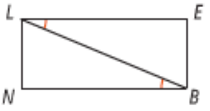
**Postulate**
If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the two triangles are congruent.

**If . . .**
$\overline{AB} \cong \overline{DE}$, $\angle A \cong \angle D$, $\overline{AC} \cong \overline{DF}$




**Then . . .**
$\triangle ABC \cong \triangle DEF$

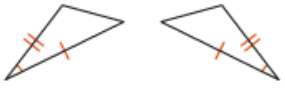
**2.** What other information do you need to prove $\triangle LEB \cong \triangle BNL$ by SAS?



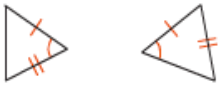
## Problem 3 Identifying Congruent Triangles

Would you use SSS or SAS to prove the triangles congruent? If there is not enough information to prove the triangles congruent by SSS or SAS, write *not enough information*. Explain your answer.

A



B



C

D