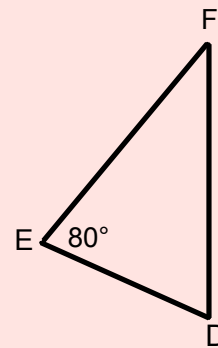
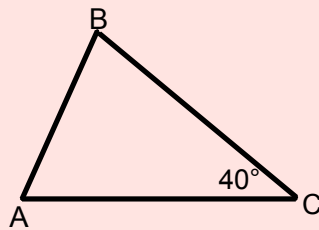


Bellwork
10/17/2011

In the diagram, $\triangle ABC \cong \triangle DEF$. Complete each statement.



A. $m\angle A = 60^\circ$

B. $\overline{FD} \cong ? \overline{CA}$

C. $\triangle EDF \cong ? \triangle BAC$

Geometry

4.3 Prove Triangles Congruent by SSS

Standard(s): 7,10

Vocabulary:

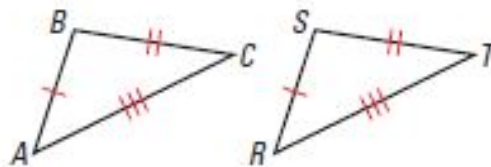
POSTULATE

For Your Notebook

POSTULATE 19 Side-Side-Side (SSS) Congruence Postulate

If three sides of one triangle are congruent to three sides of a second triangle, then the two triangles are congruent.

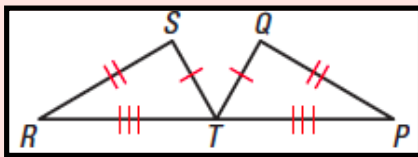
If Side $\overline{AB} \cong \overline{RS}$,
Side $\overline{BC} \cong \overline{ST}$, and
Side $\overline{CA} \cong \overline{TR}$,
then $\triangle ABC \cong \triangle RST$.



Apply SSS to Congruence Statements

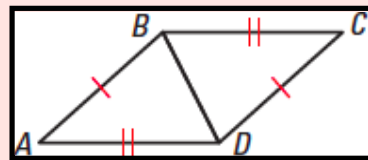
Decide whether the congruence statements are true. Explain why or why not.

$$\triangle RST \cong \triangle TQP$$



No!
 $RS \neq TQ$

$$\triangle ABD \cong \triangle CDB$$



Yes!
 $AB \cong CD, AD \cong CB, BD \cong BD$

Use Coordinates and SSS

Use the given coordinates to determine if $\triangle ABC \cong \triangle DEF$.

A(-2,-2), B(4,-2), C(4,6), D(5,7), E(5,1), F(13,1)

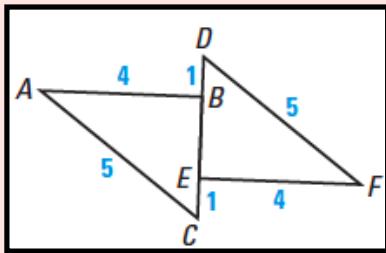
Use distance formula:

$$\begin{array}{ll} AB = \sqrt{36} & DE = \sqrt{36} \\ BC = \sqrt{64} & EF = \sqrt{64} \\ CA = \sqrt{100} & FD = \sqrt{100} \end{array}$$

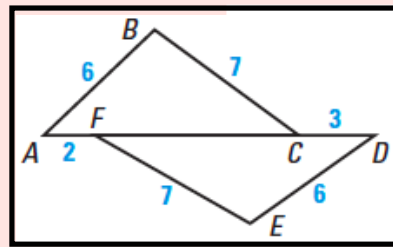
Since $AB \cong DE$, $BC \cong EF$, $CA \cong FD$,
then the triangles are congruent
by the SSS postulate.

Apply SSS to a Diagram

Decide whether the $\triangle ABC \cong \triangle DEF$. If they are congruent, write a congruence statement. Explain why or why not.



We cannot decide they're congruent. We would need to say $\triangle ABC \cong \triangle FED$.



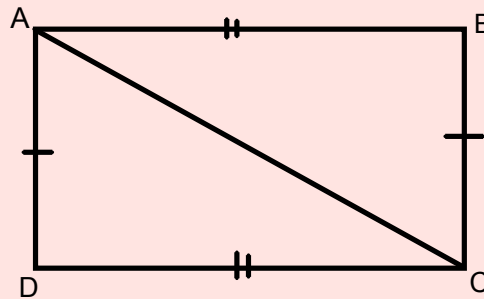
No, they're not congruent. FA must be the same as CD , but $FA \neq CD$.

Use the SSS Congruence Postulate

Prove $\triangle ABD \cong \triangle CDB$.

Given: $AB \cong CD$, $AD \cong CB$

Prove: $\triangle ABD \cong \triangle CDB$



1. $AB \cong CD$, $AD \cong CB$

2. $AC \cong AC$

3. $\triangle ABD \cong \triangle CDB$

1. Given

2. Reflexive Property

3. SSS Postulate

Homework Assignment

Worksheet 4.3B

