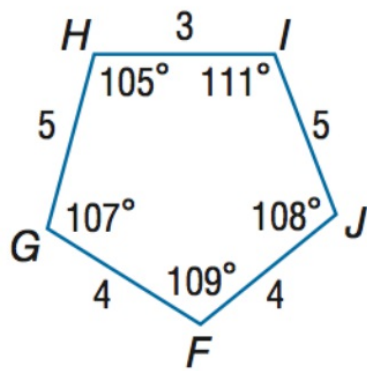
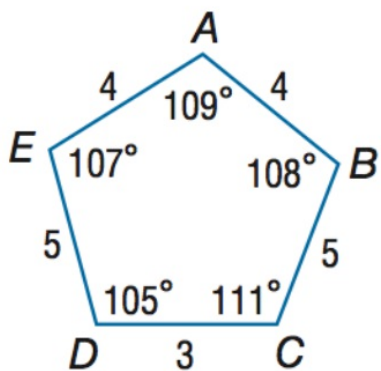


Geometry BELL WORK

Show that polygons are congruent by identifying all congruent corresponding parts. Then write a congruence statement.



- $\angle A \cong \angle F$
- $\angle B \cong \angle J$
- $\angle C \cong \angle I$
- $\angle D \cong \angle H$
- $\angle E \cong \angle G$

- $\overline{AB} \cong \overline{FJ}$
- $\overline{BC} \cong \overline{JI}$
- $\overline{CD} \cong \overline{IH}$
- $\overline{DE} \cong \overline{HG}$
- $\overline{EA} \cong \overline{GF}$

pent. $ABCDE \cong$
pent $FJIHG$

4-4 Proving Triangles Congruent—SSS, SAS

We have shown that triangles are congruent by listing all their congruent sides and angles.

Now we will:

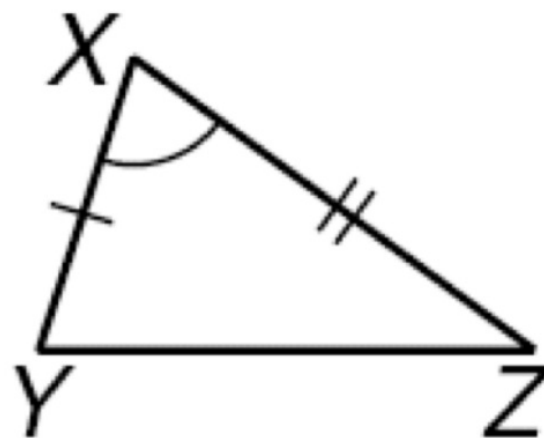
Use the SSS and SAS postulates to test for triangle congruence.

G-CO Understand congruence in terms of rigid motion

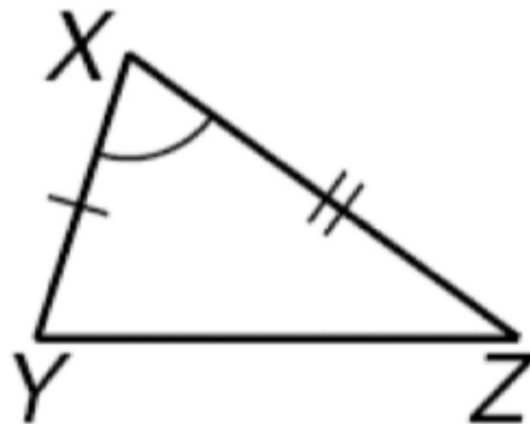
G-CO.B.8 Explain how the criteria for triangle congruence follow from the definition of congruence in terms of rigid motions.

Side-Side-Side (SSS) Congruence: If the sides of one triangle are congruent to the sides of a second triangle, then the triangles are congruent.

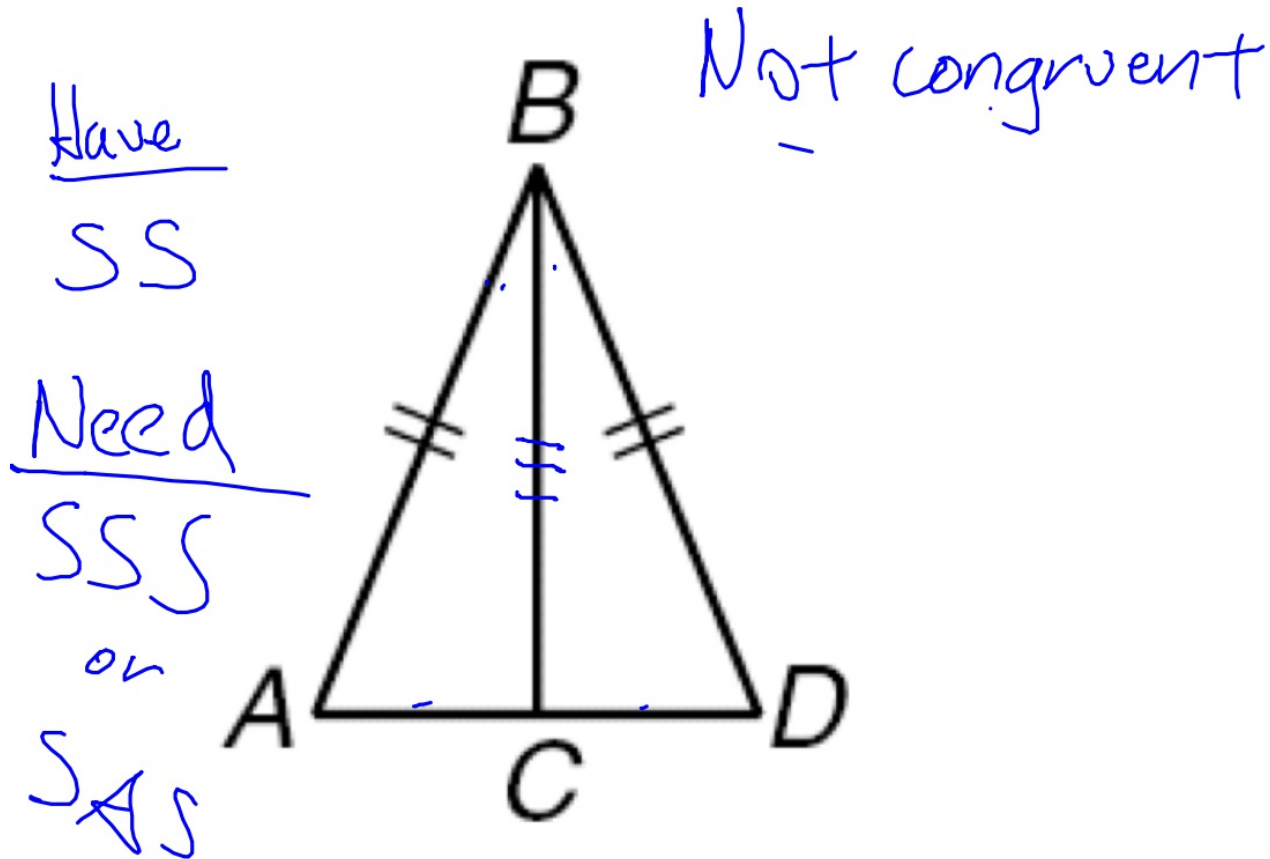
Included angle: the angle formed by two specific sides of a triangle.



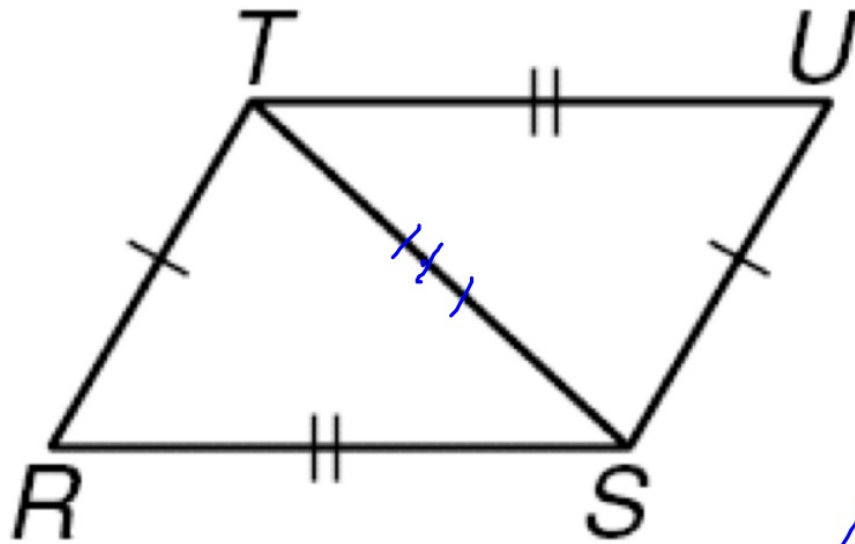
Side-Angle-Side (SAS) Congruence: If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the triangles are congruent.



Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.



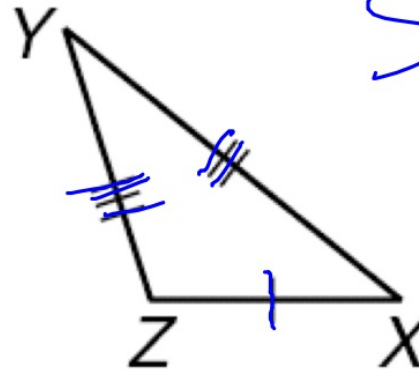
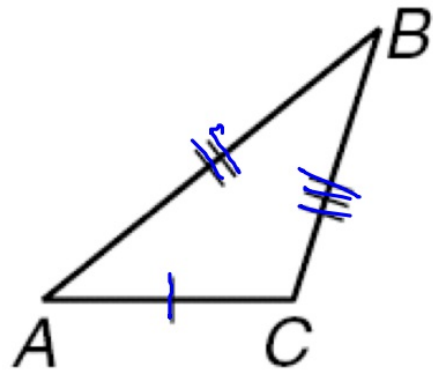
Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.



SSS triangle
congruence

$$\triangle TRS \cong \triangle TSU$$

Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.

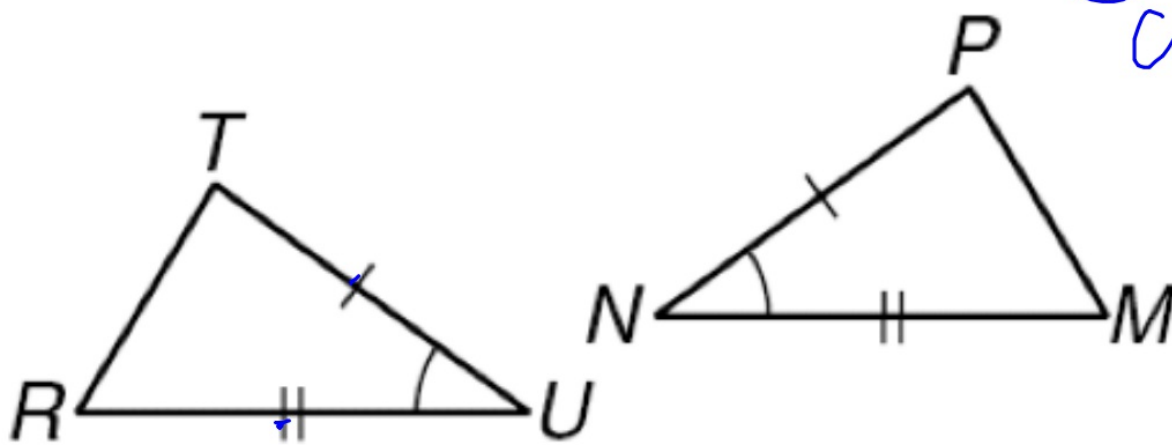


SSS triangle
congruence

$$\triangle ABC \cong \triangle XYZ$$

Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.

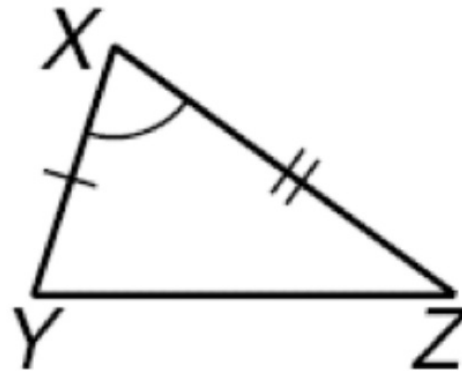
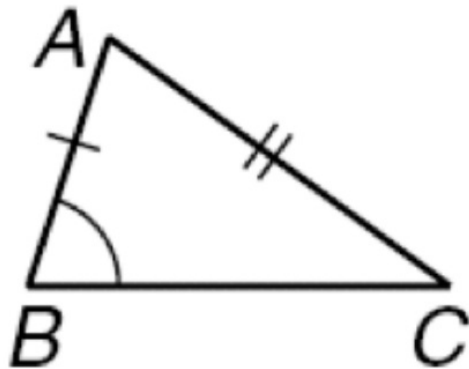
SAS triangle congruence



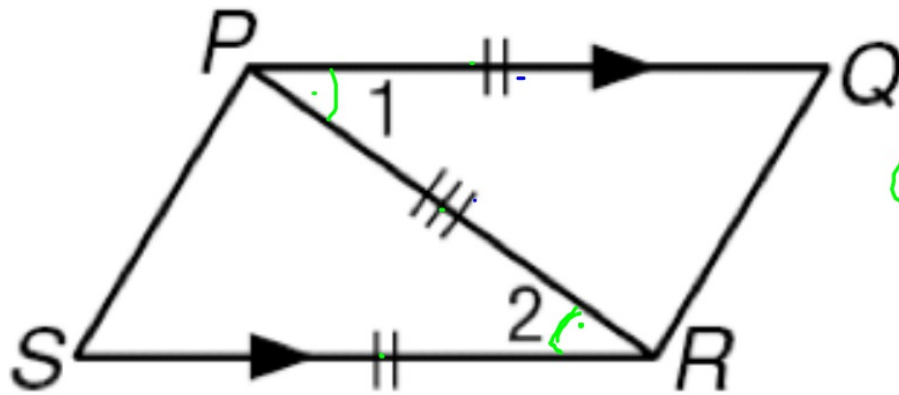
$$\triangle RTU \cong \triangle MPN$$

Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.

Not congruent



Are the two triangles congruent? How do you know (name the postulate)?
 If they are congruent write the congruence statement.



alt. interior
 angles

$$\angle 1 \cong \angle 2$$

SAS

$$\triangle PRS \cong \triangle RPQ$$

S
 A
 S

Are the two triangles congruent? How do you know (name the postulate)?
If they are congruent write the congruence statement.

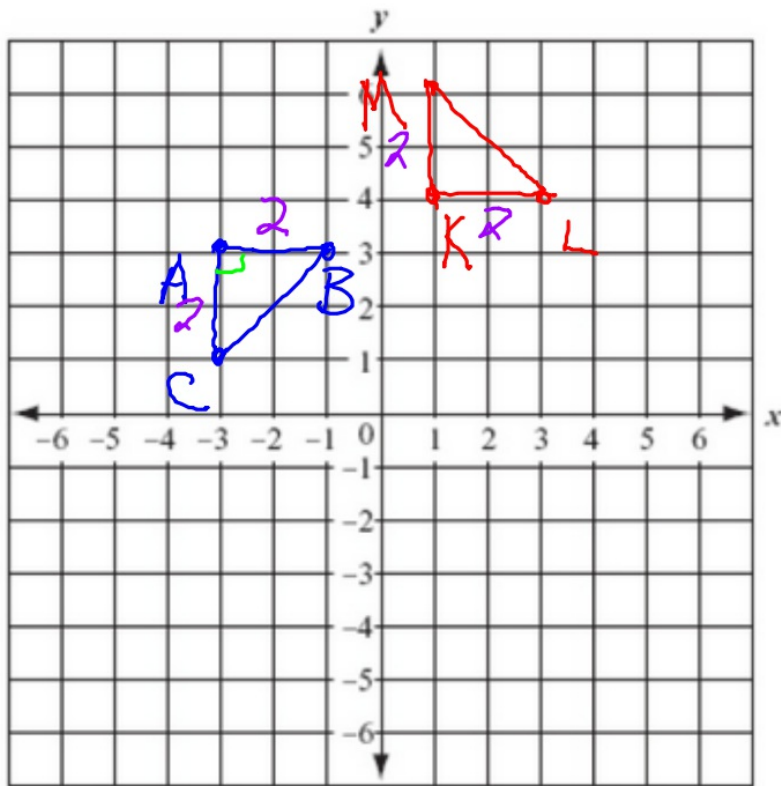
Are $\triangle ABC \cong \triangle KLM$ given the coordinates

$A(-3, 3)$, $B(-1, 3)$, $C(-3, 1)$, $K(1, 4)$, $L(3, 4)$, $M(1, 6)$?

Use distance formula or Pythagorean
Theorem to see if \triangle 's are
congruent by SSS

Are the two triangles congruent? How do you know (name the postulate)?
 If they are congruent write the congruence statement.

Are $\triangle ABC \cong \triangle KLM$ given the coordinates
 $A(-3, 3), B(-1, 3), C(-3, 1), K(1, 4), L(3, 4), M(1, 6)$?



$\overline{AC} \cong \overline{ML}$ SSS
 $\overline{AB} \cong \overline{KL}$
 Show that $\overline{BC} \cong \overline{LM} \checkmark$
 $LM^2 = 2^2 + 2^2 = \sqrt{8}$
 $BC^2 = 2^2 + 2^2 = \sqrt{8}$

Assignment:

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