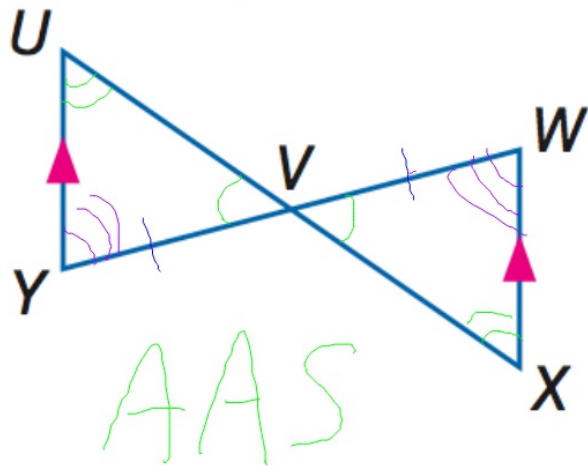


# Geometry BELL WORK

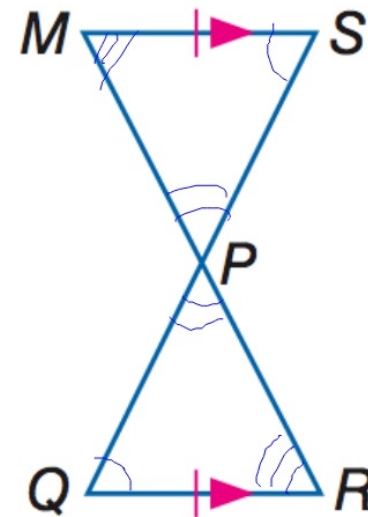
Using the given information, what theorem or postulate (SSS, SAS, AAS, or ASA) proves the triangles congruent?

**Given:**  $V$  is the midpoint of  $\overline{YW}$ ;  
 $\overline{UY} \parallel \overline{XW}$ .

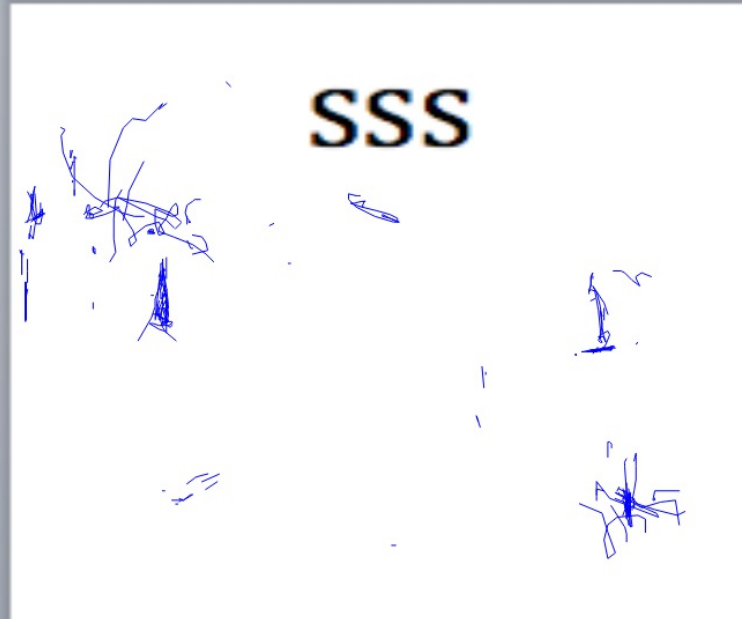
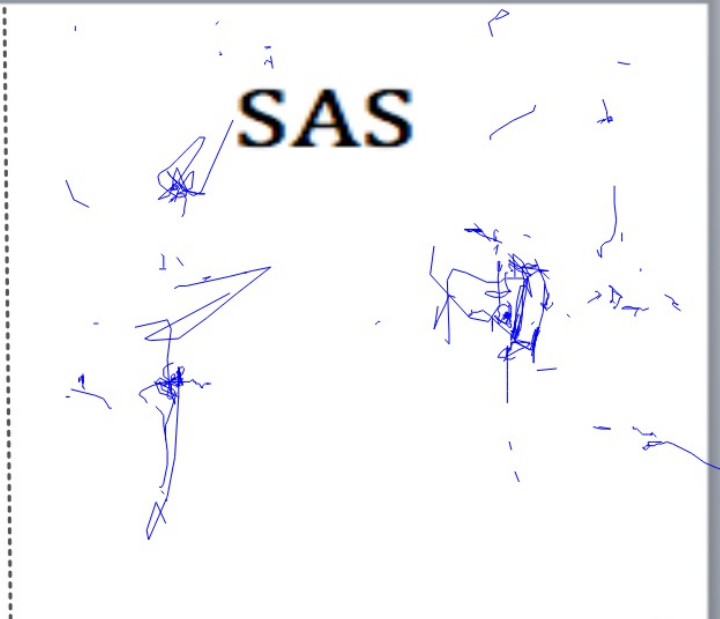
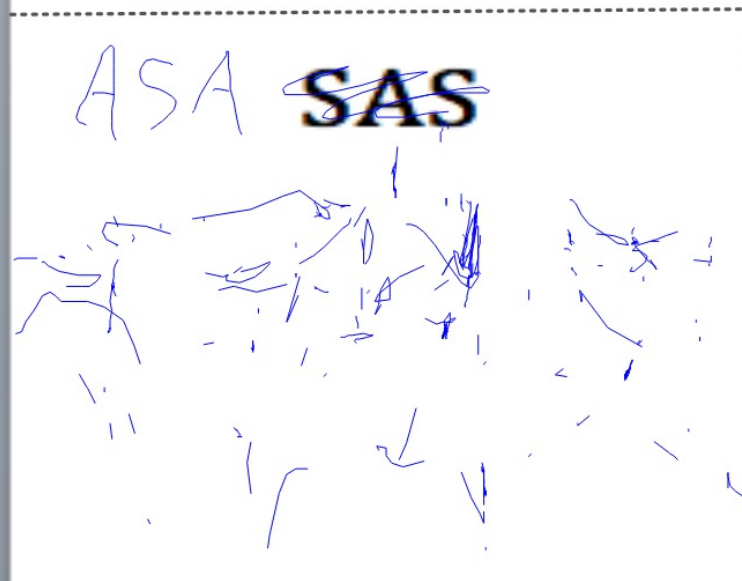
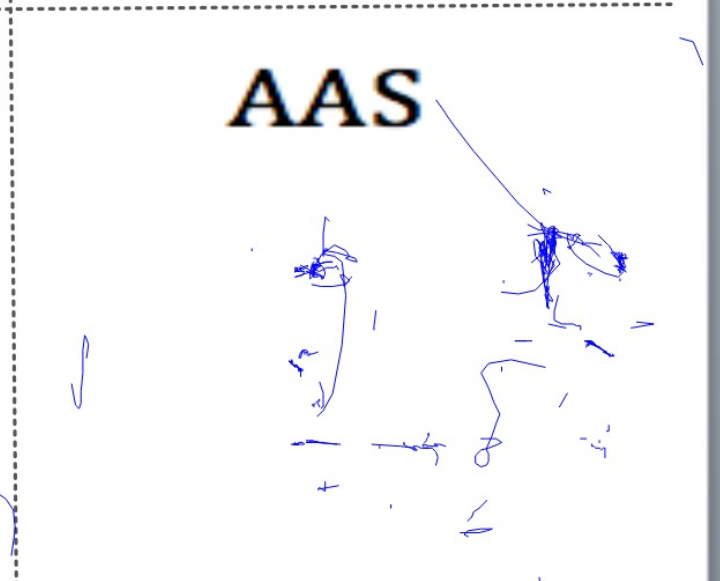


**Given:**  $\overline{MS} \cong \overline{RQ}$ ,  $\overline{MS} \parallel \overline{RQ}$

AAS



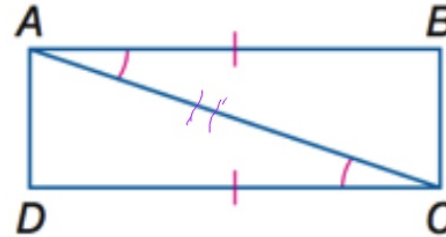
If you were handed a paper with a triangle pair on it, come forward and place it in the appropriate place on this front board.

<p><b>SSS</b></p>  <p>Hand-drawn diagrams illustrating the Side-Side-Side (SSS) congruence criterion. It shows two triangles with all three sides marked as congruent with single tick marks. A second, smaller diagram shows the triangles after being moved to show they are identical in shape and size.</p>	<p><b>SAS</b></p>  <p>Hand-drawn diagrams illustrating the Side-Angle-Side (SAS) congruence criterion. It shows two triangles with two sides and the included angle marked as congruent. A second diagram shows the triangles after being moved to show they are identical.</p>
<p><del>ASA</del> <b>SAS</b></p>  <p>Hand-drawn diagrams illustrating the Angle-Side-Angle (ASA) congruence criterion. The text 'ASA' is written in blue ink and crossed out with a blue line. The text 'SAS' is printed in bold black. The diagrams show two triangles with two angles and the included side marked as congruent. A second diagram shows the triangles after being moved to show they are identical.</p>	<p><b>AAS</b></p>  <p>Hand-drawn diagrams illustrating the Angle-Angle-Side (AAS) congruence criterion. It shows two triangles with two angles and a non-included side marked as congruent. A second diagram shows the triangles after being moved to show they are identical.</p>

Write a two-column proof.

**Given:**  $\overline{BA} \cong \overline{DC}$ ,  $\angle BAC \cong \angle DCA$

**Prove:**  $\overline{BC} \cong \overline{DA}$

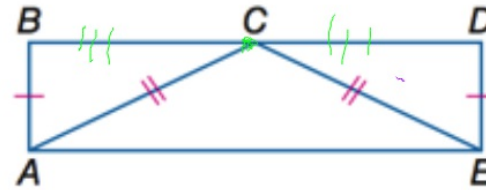


statements	Reasons
$\overline{BA} \cong \overline{DC}$	Given
$\angle BAC \cong \angle DCA$	Given
$\overline{AC} \cong \overline{AC}$	Reflexive
$\triangle ABC \cong \triangle CDA$	SAS
$\overline{BC} \cong \overline{DA}$	CPCTC

**Write a two-column proof.**

**Given:**  $\overline{AB} \cong \overline{ED}$ ,  $\overline{CA} \cong \overline{CE}$ ;  
 $\overline{AC}$  bisects  $\overline{BD}$ .

**Prove:**  $\triangle ABC \cong \triangle EDC$

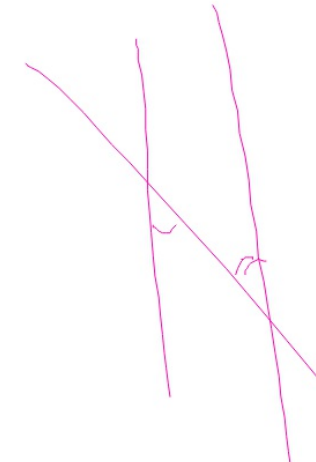
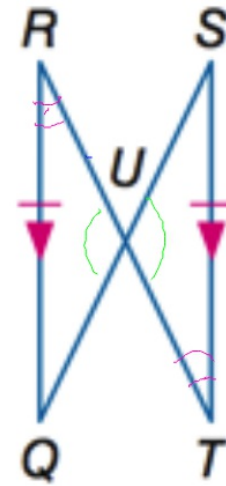


Statements	Reasons
$\overline{AB} \cong \overline{ED}$	Given
$\overline{CA} \cong \overline{CE}$	Given
$\overline{AC}$ bisects $\overline{BD}$	Given
$\overline{BC} \cong \overline{CD}$	definition of a segment bisector
$\triangle ABC \cong \triangle EDC$	SSS

Write a two-column proof.

**Given:**  $\overline{RQ} \cong \overline{ST}$  and  $\overline{RQ} \parallel \overline{ST}$

**Prove:**  $\triangle RUQ \cong \triangle TUS$

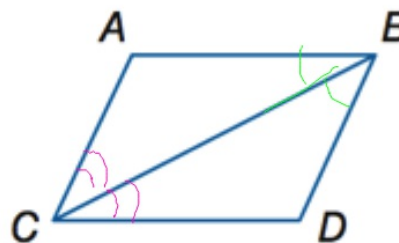


Statements	Reasons
$\overline{RQ} \cong \overline{ST}$	Given
$\overline{RQ} \parallel \overline{ST}$	Given
$\angle RUQ \cong \angle TUS$	Vertical Angles
$\angle R \cong \angle T$	Alt. Interior Angles
$\triangle RUQ \cong \triangle TUS$	AAS

Write a two-column proof.

**Given:**  $\overline{CB}$  bisects  $\angle ABD$  and  $\angle ACD$ .

**Prove:**  $\triangle ABC \cong \triangle DBC$



statements	reasons
$\overline{CB}$ bisects $\angle ABD$ and $\angle ACD$	given
$\angle ABC \cong \angle DBC$	definition of an angle bisector
$\angle ACB \cong \angle DCB$	definition of an angle bisector
$\overline{CB} \cong \overline{CB}$	Reflexive
$\triangle ABC \cong \triangle DBC$	ASA