

Warm up

What are the 5 ways to guarantee triangle congruence?

SSS, SAS, ASA, AAS, HL

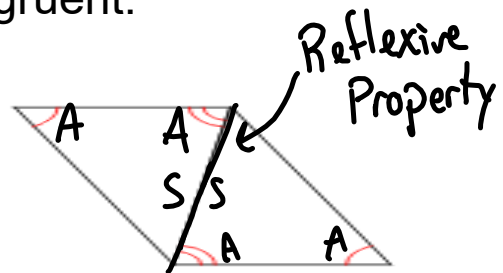
Identify the theorem that could be used to show the following triangle pairs are congruent.

1.



SAS

2.



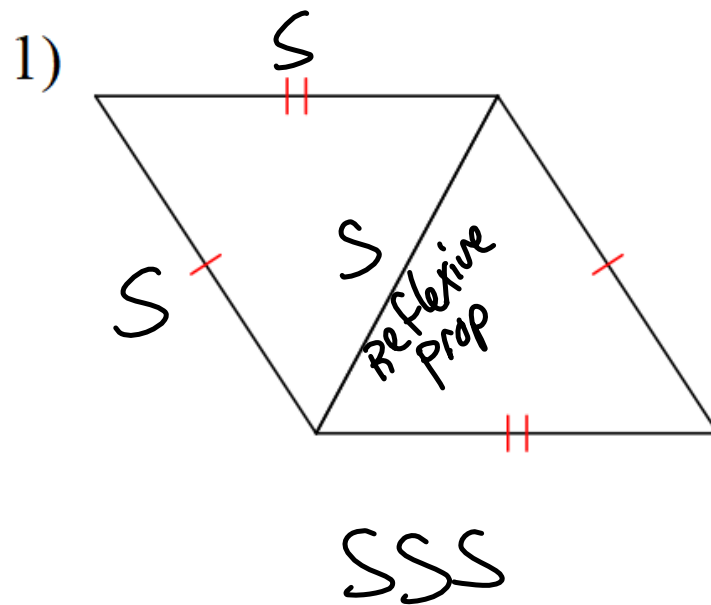
AAS

Match Each theorem to the correct column

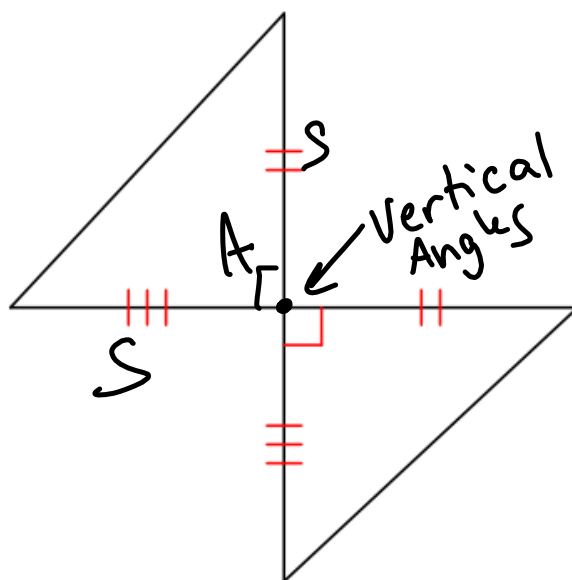
CONGRUENCE

Proves It		Does not
SAS		SSA
ASA		AAA
HL		
SSS		
AAS		

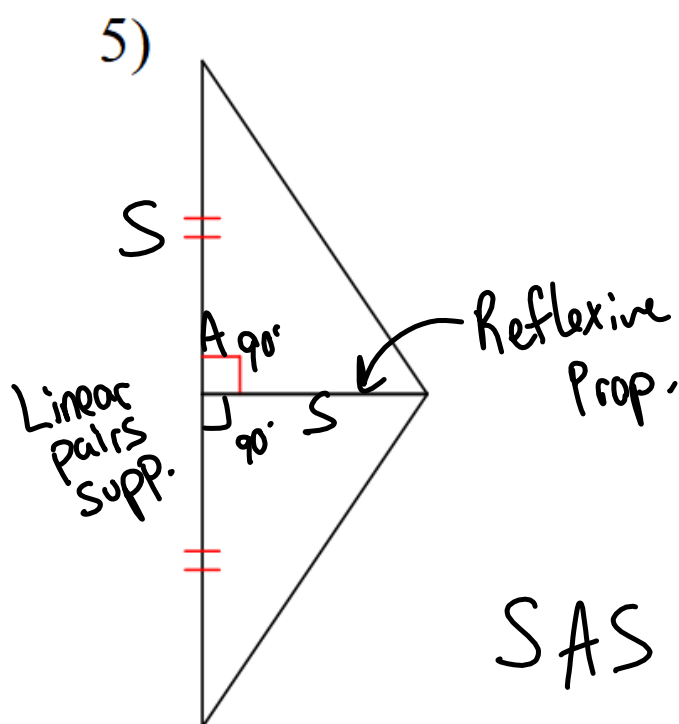
Practice with identifying the theorem.



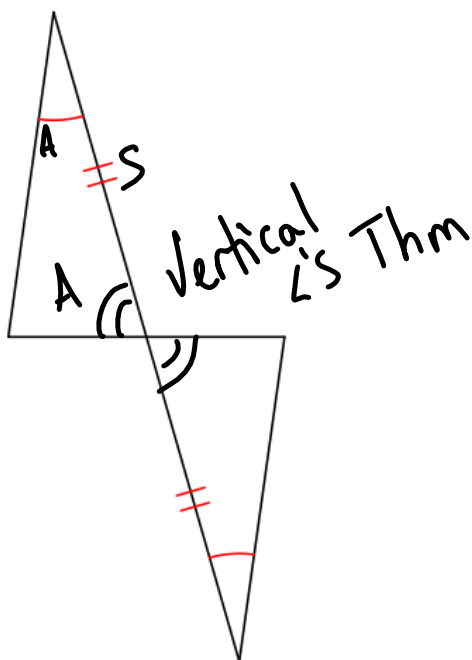
3)



SAS

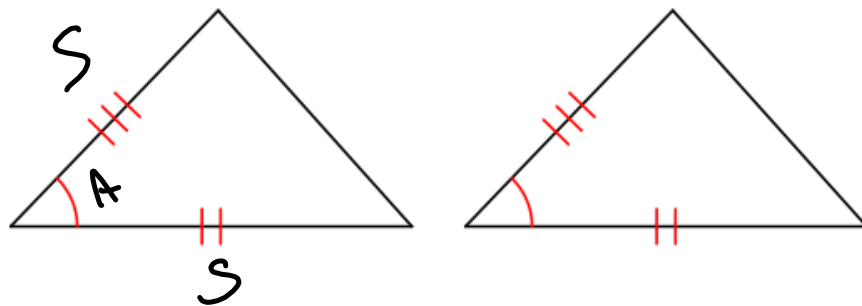


7)



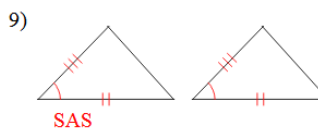
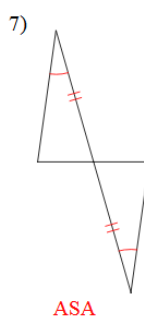
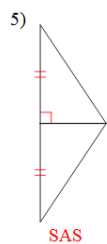
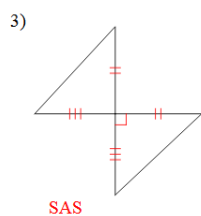
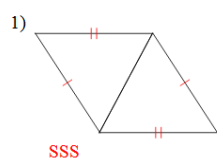
ASA

9)



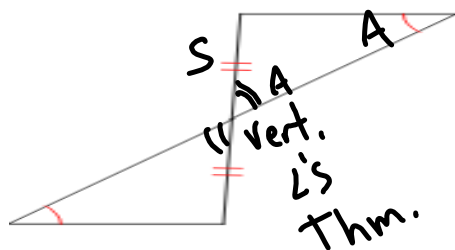
SAS

Answers



Sticky note check

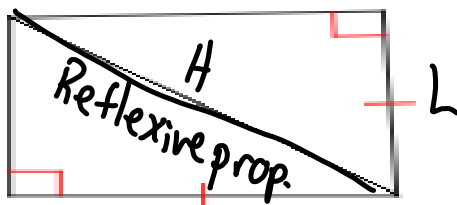
Identify the theorem that could be used to show the following triangle pairs are congruent.



AAS

Sticky note check

Identify the theorem that could be used to show the following triangle pairs are congruent.



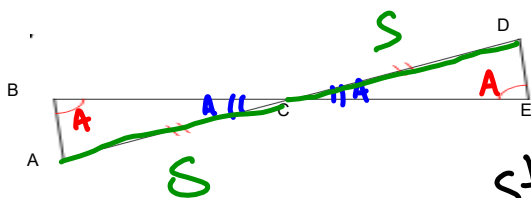
HL

Goals

- Use two column and paragraph proofs to prove congruence in triangles.

Class proofs

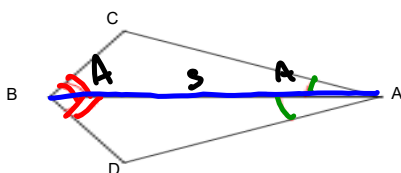
Prove: $\triangle ABC \cong \triangle DEC$



Statement	Reason
$\angle B \cong \angle E$	Given
$\overline{AC} \cong \overline{DC}$	Given
$\angle BCA \cong \angle ECD$	Vert. \angle 's Thm.
$\triangle ABC \cong \triangle DEC$	AAS

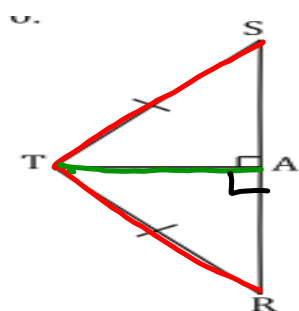
Class proofs (paragraph)

Prove: $\triangle ABC \cong \triangle ABD$



It is given that $\angle CAB \cong \angle DAB$
and $\angle CBA \cong \angle DBA$. $\overline{AB} \cong \overline{AB}$ by
the reflexive property. Thus,
 $\triangle ABC \cong \triangle ABD$ by ASA

PROVE: $\triangle ATS \cong \triangle ATR$



Statement	Reason
$\overline{ST} \cong \overline{RT}$	Given
$\overline{AT} \cong \overline{AT}$	Reflexive Prop.
$\triangle ATS \cong \triangle ATR$	HL

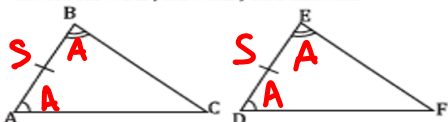
YOUR TURN!!!

1,3,19, 21

For these fill in any missing statements or reasons.

1.

Given: $\overline{AB} \cong \overline{DE}$, $\angle B \cong \angle E$, and $\angle A \cong \angle D$

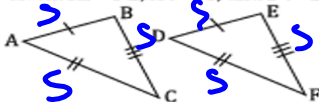


Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
1. $\overline{AB} \cong \overline{DE}$	1. Given
2. $\angle B \cong \angle E$	2. Given
3. $\angle A \cong \angle D$	3. Given
4. $\triangle ABC \cong \triangle DEF$	4. ASA

3.

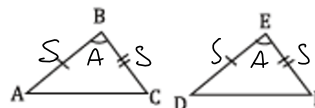
Given: $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$, and $\overline{BC} \cong \overline{EF}$



Prove: $\triangle ABC \cong \triangle DEF$

Statements	Reasons
1. $\overline{AB} \cong \overline{DE}$	1. Given
2. $\overline{AC} \cong \overline{DF}$	2. Given
3. $\overline{BC} \cong \overline{EF}$	3. Given
4. $\triangle ABC \cong \triangle DEF$	4. SSS

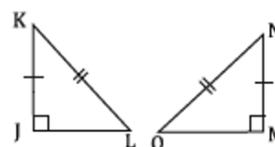
19. Given: $\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$, and $\angle B \cong \angle E$



Prove: $\triangle ABC \cong \triangle DEF$

S	R
$\overline{AB} \cong \overline{DE}$	Given
$\overline{BC} \cong \overline{EF}$	Given
$\angle B \cong \angle E$	Given
$\triangle ABC \cong \triangle DEF$	SAS

21. Given: $\overline{JK} \cong \overline{MN}$, $\overline{KL} \cong \overline{NO}$



Prove: $\triangle JKL \cong \triangle MNO$

S	R
$\overline{JK} \cong \overline{MN}$	Given
$\overline{KL} \cong \overline{NO}$	Given
$\triangle JKL \cong \triangle MNO$	HL