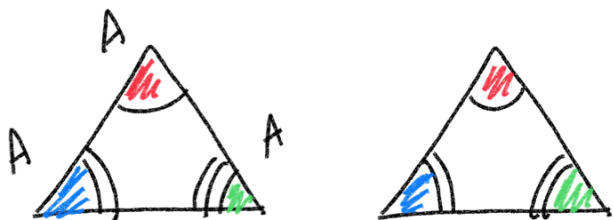


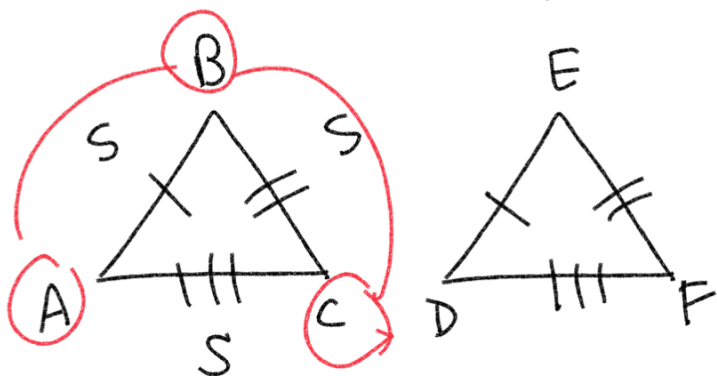


Two Requirements for Triangle Congruency

- 1.) You must have one representative from each angle side pair (letter)
- 2.) Must have at least one side congruency.



AAA angle-angle-angle
not a triangle congruency.

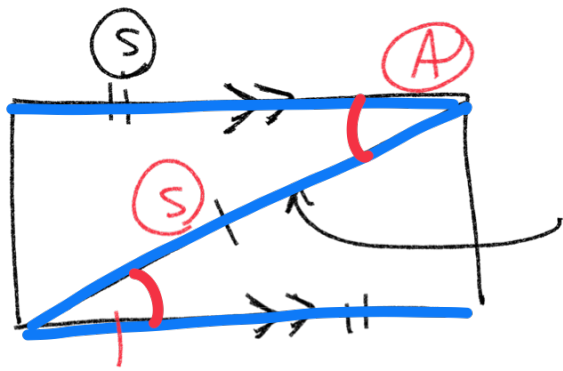


$$\triangle ABC \cong \triangle DEF$$

SSS
side-side-side
congruency



SAS
side-angle-side
congruency

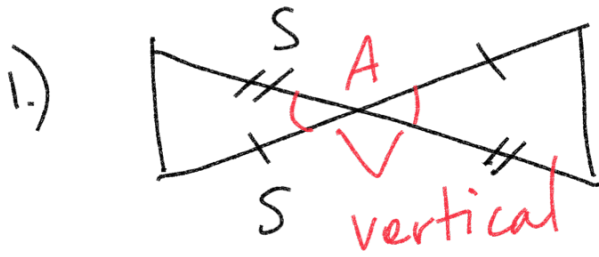


alternate interior angles

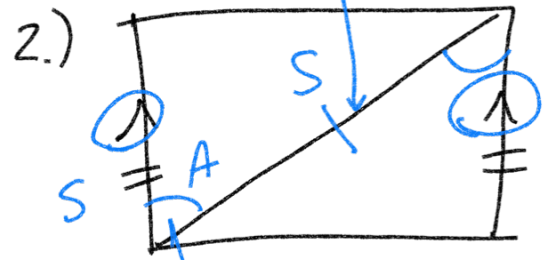
reflexive property

SAS

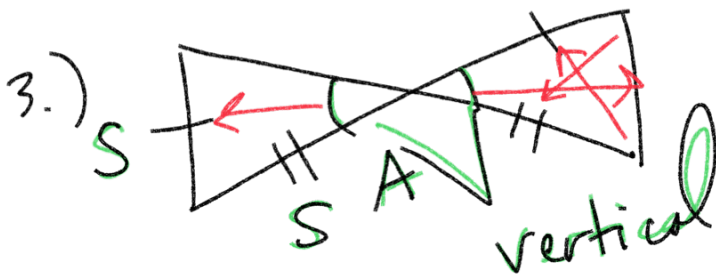
- 3 properties
- reflexive
 - vertical angles
 - alt interior angles



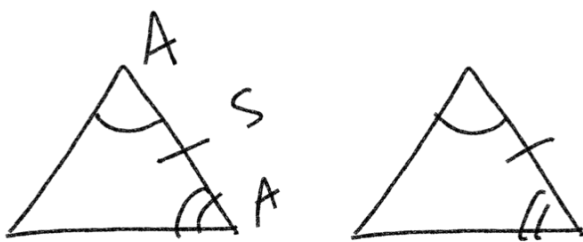
SAS



reflexive
alternate SAS interior angles



No congruency



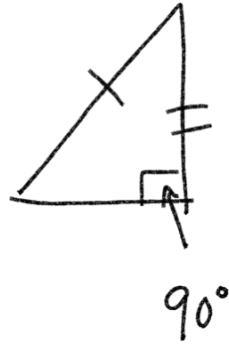
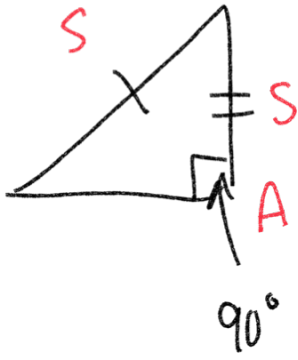
ASA

angle-side-angle



AAS

congruent



Right Triangle

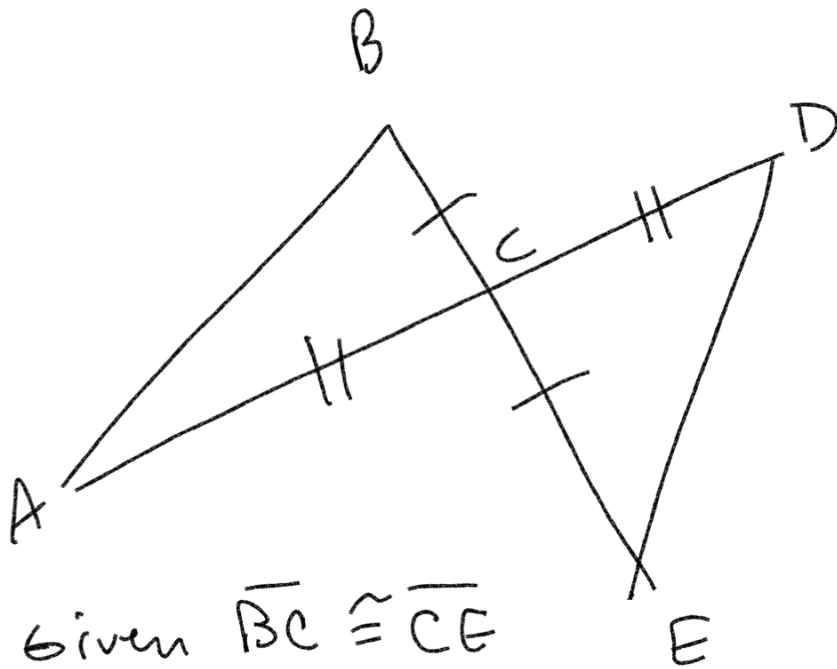
HL

hypotenuse-leg

Behave like
SSS

Pythagorean Theorem

$$\begin{matrix} \uparrow & \uparrow & \uparrow \\ a^2 + b^2 = c^2 \end{matrix}$$

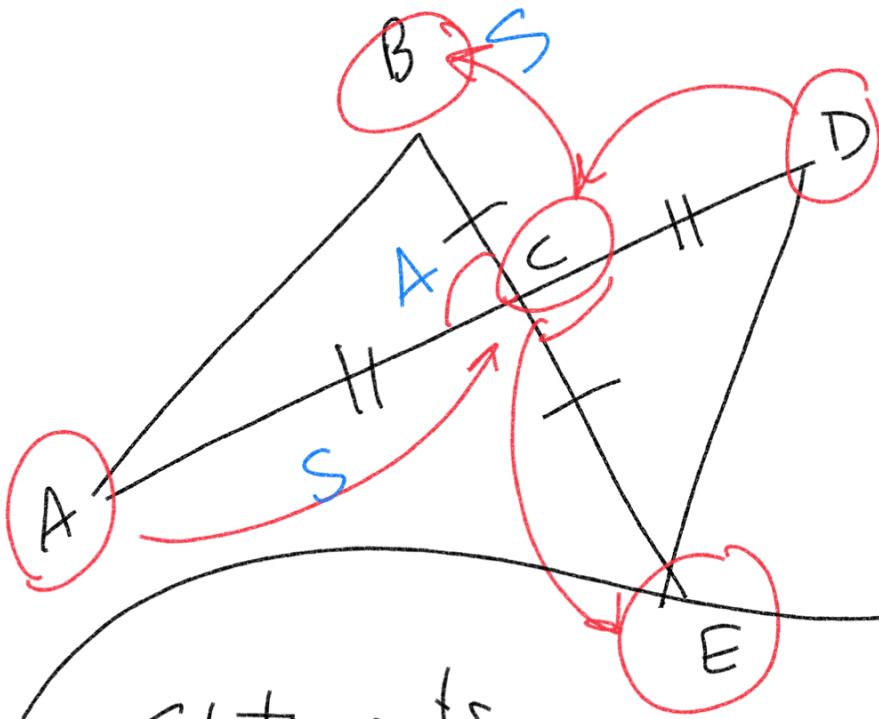


Given $\overline{BC} \cong \overline{CE}$
 $\overline{AC} \cong \overline{CD}$

Prove: $\overline{AB} \cong \overline{DE}$

CPCTC
Corresponding Part
of Congruent
Triangles are
Congruent

Cancer Patients
Can't Take Candy



Given $\overline{BC} \cong \overline{CE}$
 $\overline{AC} \cong \overline{CD}$

Prove: $\overline{AB} \cong \overline{DE}$

Properties

reflex.
 vertical
 alt int

Statements

$\overline{BC} \cong \overline{CE}$

$\overline{AC} \cong \overline{CD}$

Reasons

Given

Given

$\angle ACB \cong \angle DCE$

vertical angles

$\triangle ACB \cong \triangle DCE$

SAS

Triangle
 congruency

$\overline{AB} \cong \overline{DE}$

C.P.C.T.C

Assignment

Determine if the two triangles are congruent. If they are, state how you know.

1) *vertical angles*
AAA not congruent

2) *reflexive*
not congruent

3) *AAS*

4) *AAS*
reflexive

5) *not congruent*

6) *vertical reflexive alt. interior*
not congruent

7) *vertical (SAS)*

8) *vertical*
AAS

9) *reflexive*
(SAS)