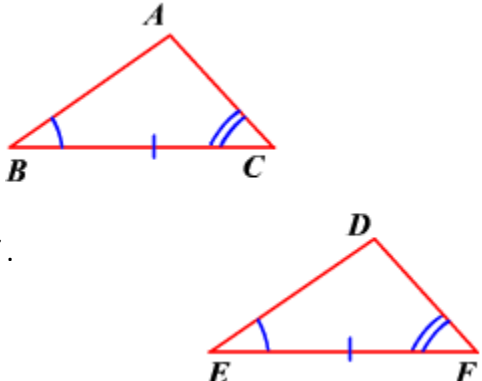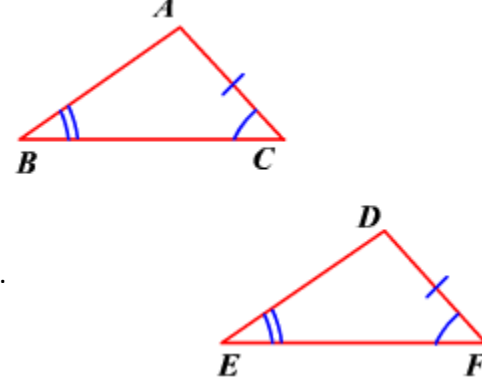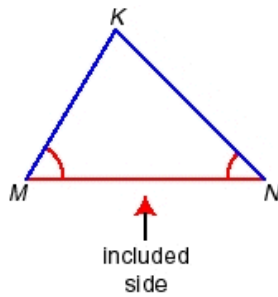**LEARNING TARGETS**

➢ I can prove triangles congruent using ASA.
➢ I can prove triangle congruent using AAS.

An included side is the side that links two angles together. In the diagram below, $\overline{MN}$ is the included side of $\angle M$ and $\angle N$.

included side

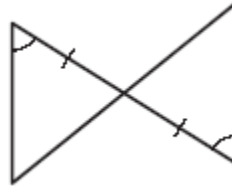|	**Example:**

ASA Congruence Theorem (ASA)
 	
If two angles and the included side of one triangle are congruent to two angles and the included side of a second triangle, then the two triangles are congruent.
	
	If **Angle** $\angle B \cong \angle E$
	  Side $\overline{BC} \cong \overline{EF}$
	  Angle $\angle C \cong \angle F$
	then, $\triangle ABC \cong \triangle DEF$.

AAS Congruence Theorem (AAS)
 	
If two angles and the non-included side of one triangle are congruent to two angles and the corresponding non-included side of a second triangle, then the two triangles are congruent.
	
	If **Angle** $\angle C \cong \angle F$
	  Angle $\angle B \cong \angle E$
	  Side $\overline{AC} \cong \overline{DF}$
	then $\triangle ABC \cong \triangle DEF$.

Example 1: Identify Congruent Triangles
Can the triangles be proven congruent based on the given information in the diagram? If so, state the postulate or theorem you would use. If not, why not?
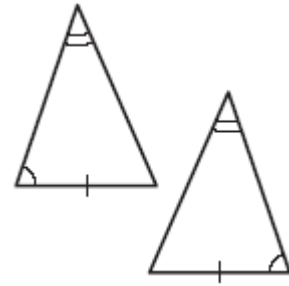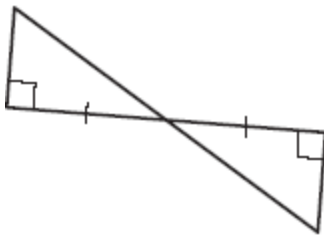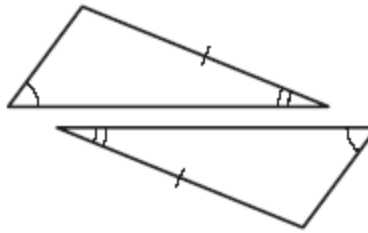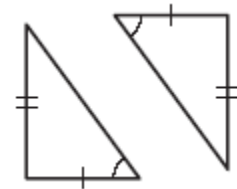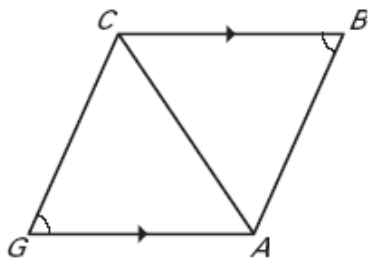
a)
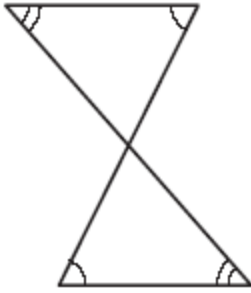
b)
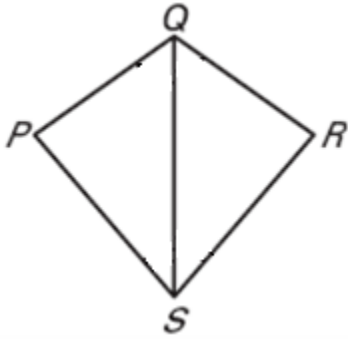
c)

d)

e)

f)

Example 2: Write a two-column proof

a) Given: $\angle G \cong \angle B$, $\overline{CB} \parallel \overline{GA}$
   Prove: $\triangle GCA \cong \triangle BAC$

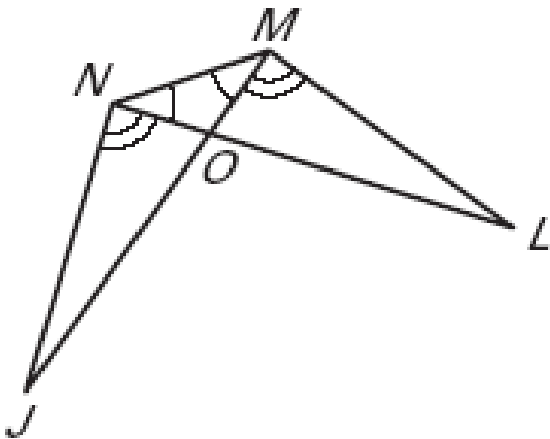| Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

b) Given: $\overline{QS}$ bisects $\angle PQR$ and $\angle PSR$

Prove: △PSQ≅△RSQ

Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

c) Given: ∠OMN≅∠ONM, ∠JNO≅∠LMO
Prove: △NOJ≅△MOL

Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.