Triangle Congruence Using ASA Postulate and AAS Theorem

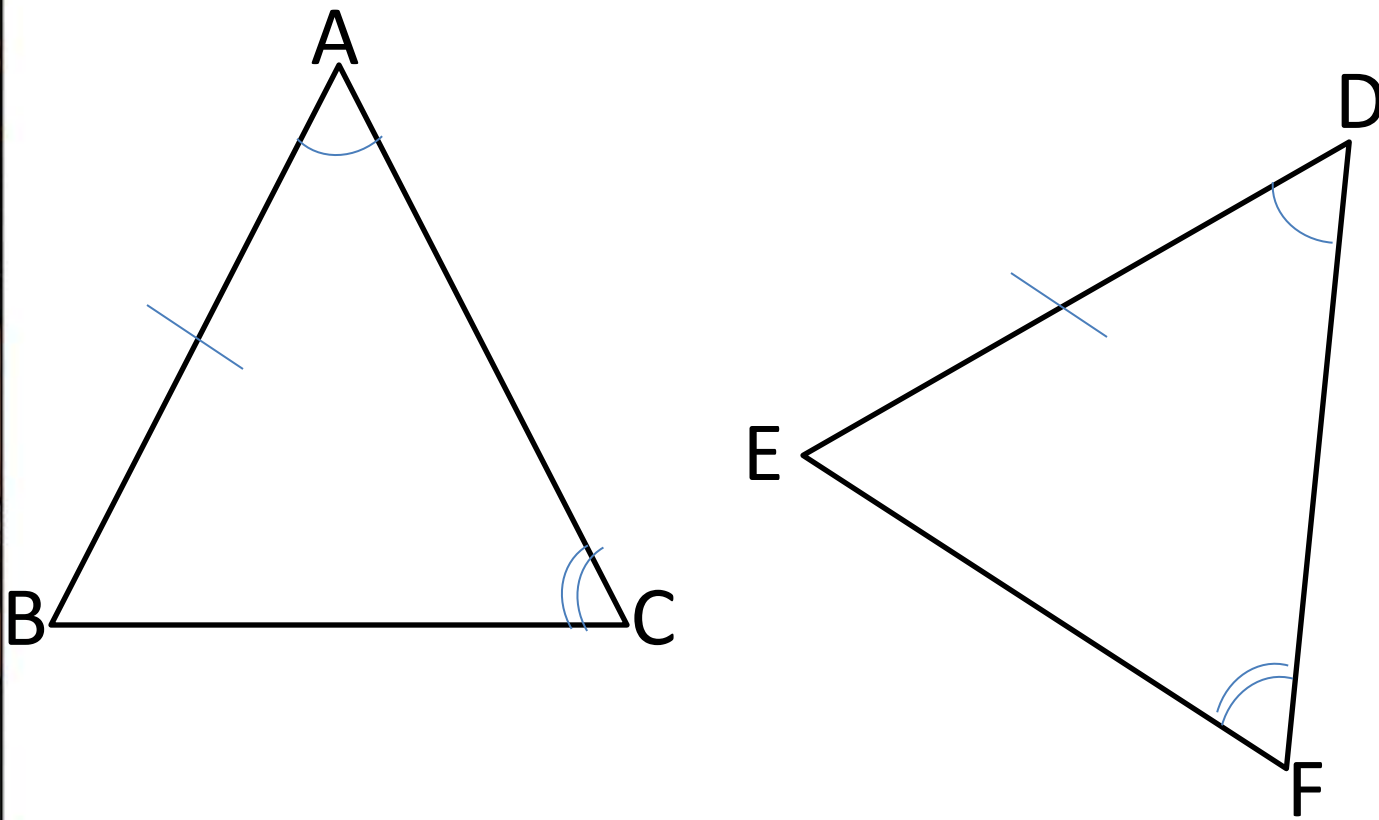# Angle-Side-Angle (ASA) Postulate

If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the two triangles are congruent.
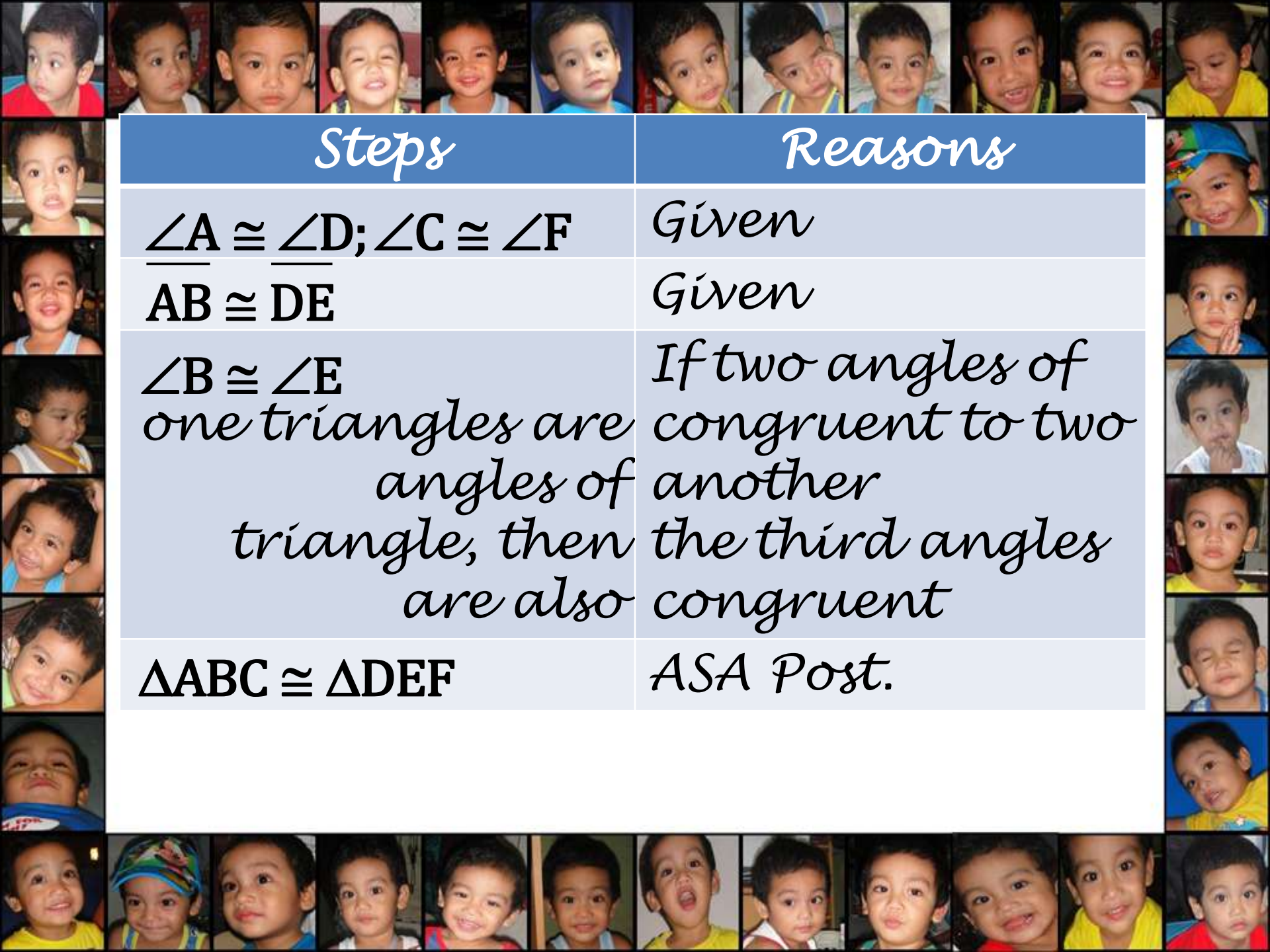
Angle-Angle-Side (AAS) Theorem

If two angles and a nonincluded side of one triangle are congruent to two angles and a nonincluded side of another triangle, then the two triangles are congruent.
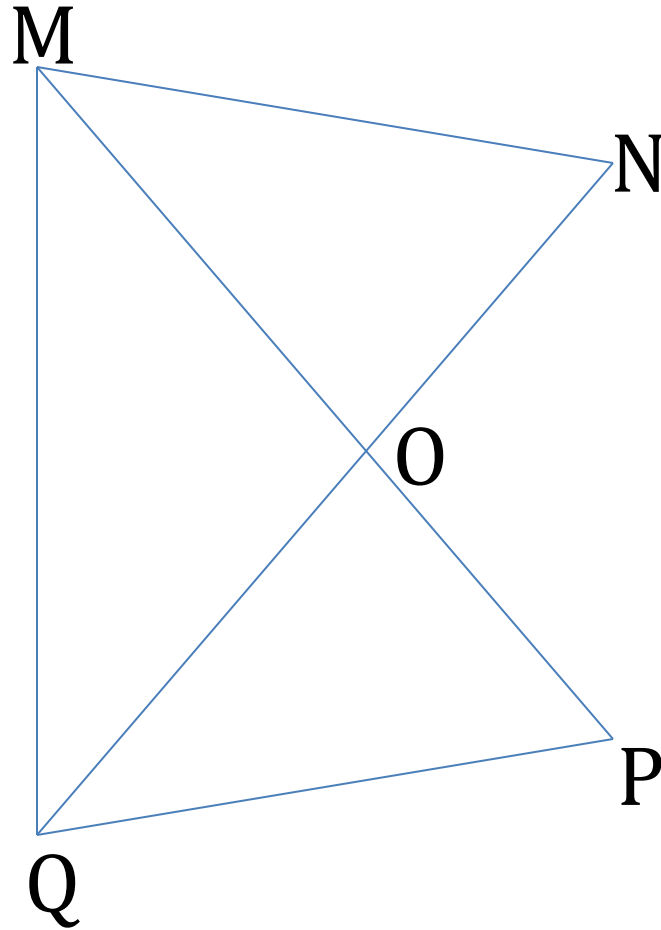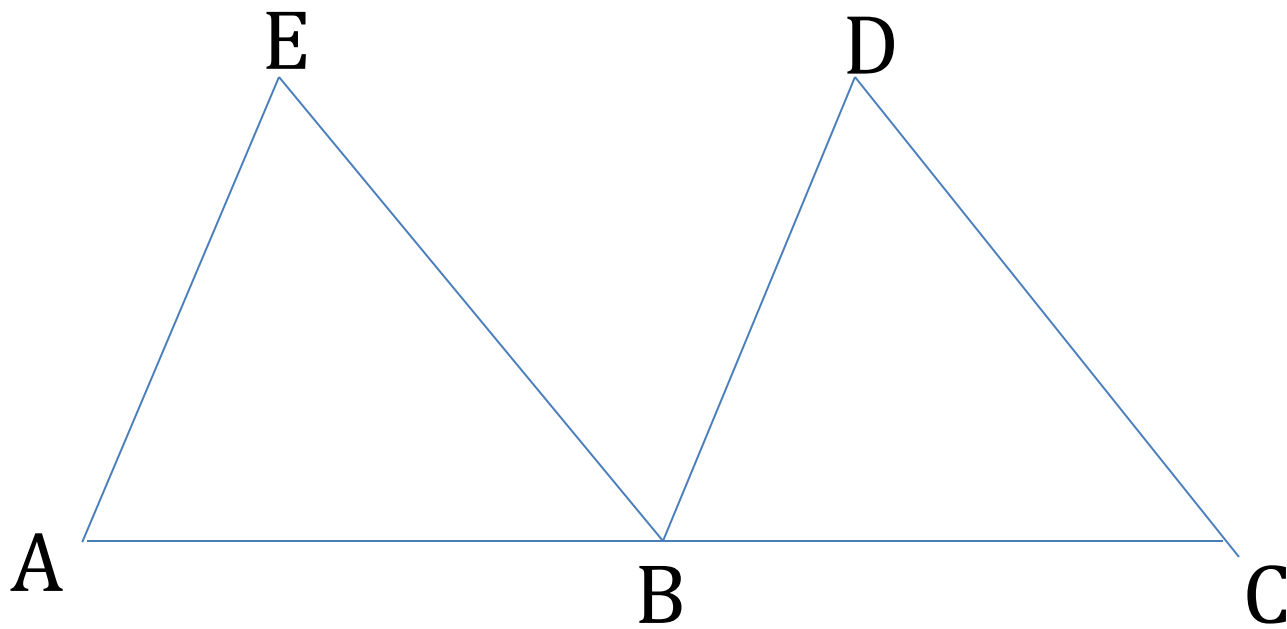
Angle-Angle-Side (AAS) Theorem

Steps	Reasons
$\angle A \cong \angle D; \angle C \cong \angle F$	Given
$\overline{AB} \cong \overline{DE}$	Given
$\angle B \cong \angle E$ one triangles are angles of triangle, then are also	If two angles of congruent to two another the third angles congruent
$\Delta ABC \cong \Delta DEF$	ASA Post.

Given:

$\angle N \cong \angle P, \overline{MO} \cong \overline{QO}$

Prove:

$\Delta MON \cong \Delta QOP$

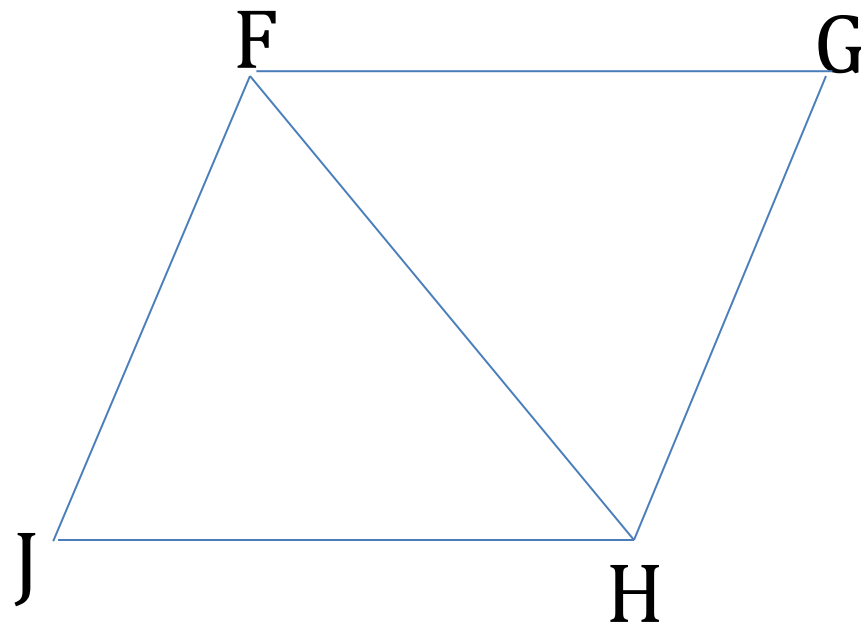Given: $\overline{AE} \parallel \overline{BD}, \overline{AE} \cong \overline{BD}, \angle E \cong \angle D$

E   D

A   B   C

Prove: $\triangle AEB \cong \triangle BDC$

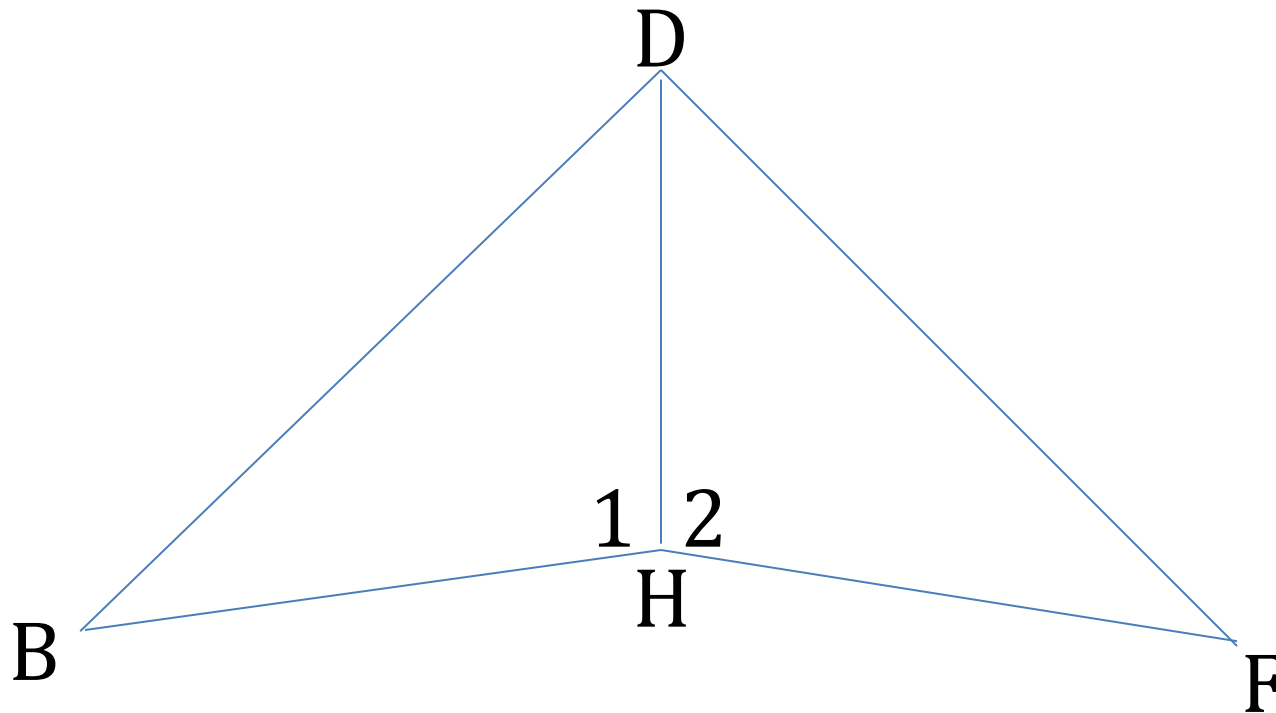Assignment:

Given: $\overline{FG} \parallel \overline{JH}, \angle F \cong \angle H$

Prove: $\triangle FGJ \cong \triangle HJG$

Given: $\angle 1 \cong \angle 2$, $\overline{DH}$ bisects $\angle BDF$

D

1 2

H

B

F

Prove: $\Delta BDH \cong \Delta FDH$