SSS and SAS are used to prove that two triangles are congruent.

There are other Postulates and Theorems that also prove triangles are congruent.
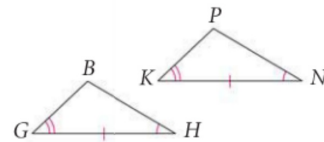
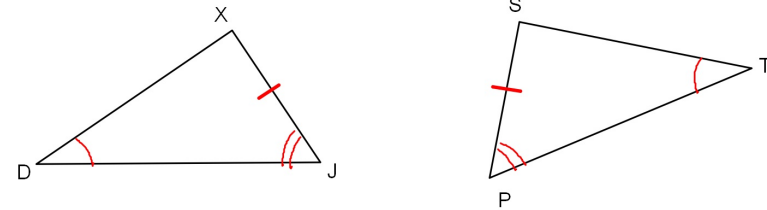**Sec 4-3**

Postulate 4-3	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.
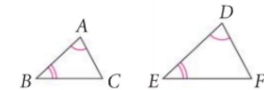
$\triangle HGB \cong \triangle NKP$

Are these triangles congruent by SSS, SAS, or ASA Postulates?

Theorem 4-1	

If two angles of one triangle are congruent to two angles of another triangle, then the third angles are congruent.

$\angle C \cong \angle F$

Using this theorem you can show that angles X and S are congruent then these triangles are congruent using ASA. See the next page. The above arguement shows that AAS can be turned into ASA, therefore, AAS is also a way to show two triangles are congruent.

Theorem 4-2	Angle-Angle-Side (AAS) Theorem

If two angles and a nonincluded side of one triangle are congruent to two angles and the corresponding nonincluded side of another triangle, then the triangles are congruent.
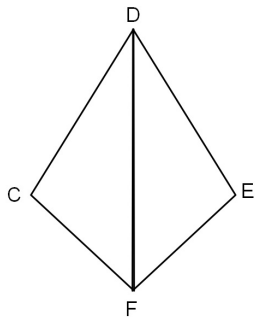
$\triangle CDM \cong \triangle XGT$
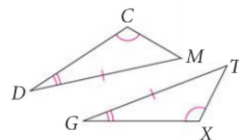
Ways to prove triangles are congruent:

1. SAS
2. SSS
3. AAS
4. ASA

Is each pair of triangles congruent? If yes, give a reason and write a congruence statement.

1. Given DF bisects both
    $\angle$ CDE and $\angle$ CFE

D

C

E

F

2. $\overline{GH}$ || $\overline{JK}$ and M is the midpoint of $\overline{JG}$.

J

K

M

H

G