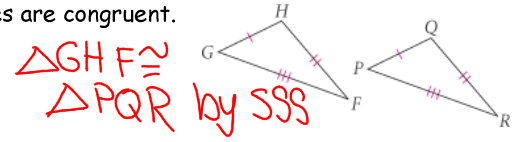
Objective: *You will be able to determine if two triangles are congruent using the triangle congruent theorems.*

Dec 9-3:38 PM

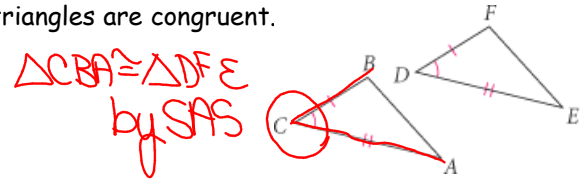
Triangle Congruency Theorems

Side-Side-Side Congruence Postulate (SSS): If each of 3 sides of one triangle are congruent to the corresponding sides of another triangle, then the triangles are congruent.



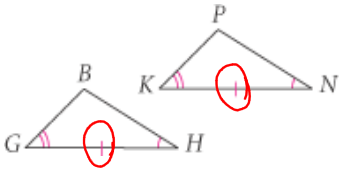
Apr 24-8:14 AM

Side-Angle-Side Congruence Postulate (SAS): If 2 sides and the included angle of one triangle are congruent to the corresponding 2 sides and included angle of another triangle, then the triangles are congruent.



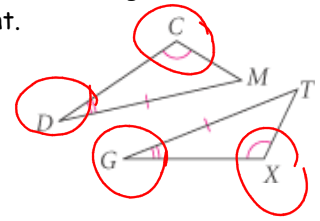
Apr 24-8:17 AM

Angle-Side-Angle Congruence Postulate (ASA): If 2 angles and the included side of one triangle are congruent to the corresponding 2 angles and included side of another triangle, then the triangles are congruent.



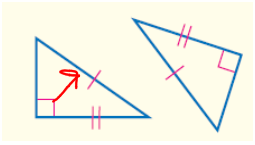
Apr 24-8:19 AM

Angle-Angle-Side Congruence Postulate (AAS): If 2 angles and the nonincluded side of one triangle are congruent to the corresponding 2 angles and the nonincluded side of another triangle, then the triangles are congruent.



Apr 24-8:21 AM

Hypotenuse-Leg (HL): RIGHT TRIANGLES ONLY!!
If the hypotenuse and leg of one right triangle are congruent to the hypotenuse and corresponding leg of another right triangle, then the triangles are congruent.



Dec 17-1:12 PM

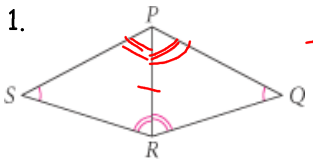
SSS
ASA
AAS
HL

AAA
ASS
SSA

Feb 2-1:58 PM

Example #1:
Are the following triangles congruent? If so, write a congruency statement and state by which triangle congruency theorem.

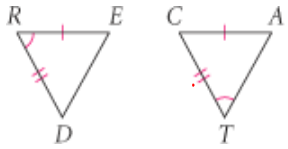
1.



$\triangle SRP \cong \triangle QRP$ by AAS

Apr 24-8:22 AM

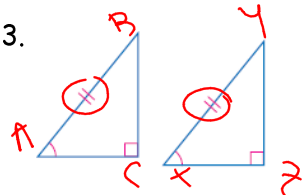
2.



Not $\cong$

Apr 24-8:23 AM

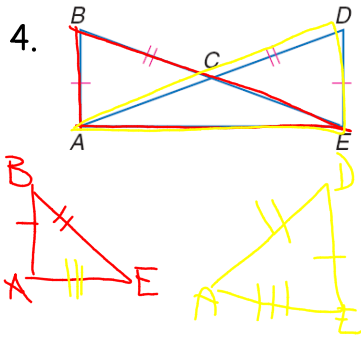
3.



$\triangle ABC \cong \triangle XYZ$ by AAS

Apr 24-8:23 AM

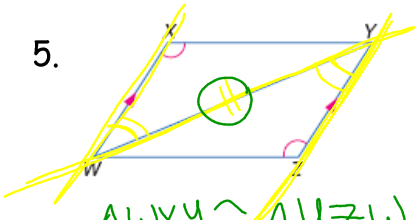
4.



$\triangle BAE \cong \triangle DCA$ by SSS

Dec 17-1:15 PM

5.



$\triangle WXY \cong \triangle YZW$ by AAS

Dec 17-1:16 PM

Example #2:

What other information do you need in order to prove these triangles congruent?

∠RSK ≅ ∠TKS for SAS

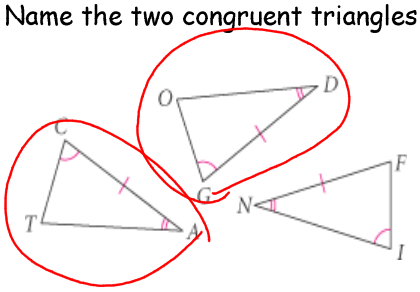
∠RKT are rt ∠'s HL

RT ≅ ST SSS

Apr 24-8:23 AM

Example #3:

Name the two congruent triangles in this picture.



△CAT ≅ △GDU by ASA

Apr 24-8:24 AM

Dec 17-11:57 AM

Apr 24-8:58 AM