| Name | Date | | Period |
|--|--|---|---------------------|
| | CCGPS Analytic Geometry – Septem | nber 16, 2014 | |
| | Triangle Congruence Not | es | |
| | Day 2: SAS, SSA, & HL | | |
| When 2 lines, rays or segments meet a | at a common endpoint, then the angle fo | ormed between them is th | ie |
| angle. | | | |
| | /* | | |
| | CCGPS Analytic Geometry – September 16, 2014 Triangle Congruence Notes Day 2: SAS, SSA, & HL a common endpoint, then the angle formed between them is the be congruent if 2 sides and the included angle are the same measure? and the | | |
| | Included Angle | | |
| | в с | | |
| Does Side-Angle-Side (SAS) exist? | | | |
| Triangle Congruence Notes Day 2: SAS, SSA, & HL en 2 lines, rays or segments meet at a common endpoint, then the angle formed between them is the angle. **A between them is the angle formed between them is the angle. **A T DO YOU THINK? Will all triangles be congruent if 2 sides and the included angle are the same measure? **A T DO YOU THINK? Will all triangles be congruent if 2 sides and the included angle are the same measure? **Angle-Side (SAS) Postulate — If and the of a nother triangle in the two triangles are **Since two sides and the included angle are congruent ∆ABC ≅ ∆XYZ are congruent by the Side-Angle-Side (SAS) Postulate. **Since AABC ≅ ∆XYZ are congruent by Side-Angle-Side (SAS) Postulate, then, and **Side-Angle (SSA) exist? **AT DO YOU THINK? Will all triangles be congruent if 2 sides and the nonincluded angle have the same measure? **Ede-Angle (SSA) exist because the third side could be a length. **Terfore, the triangles congruent. | | | |
| Side-Angle-Side (SAS) Postulate – If | and th | e | of a |
| triangle are congruent to | and the | | of another triangle |
| then the two triangles are | | | |
| | ded angle are congruent ΔABC ≌ ΔXYZ a | | |
| , because | | ber 16, 2014 es primed between them is the ded angle are the same measure? e of a of another triangle re congruent by the Side-Angle-Side (SAS) Postulate. , then and included angle have the same measure? I side could be a length. | |
| Does Side–Side–Angle (SSA) exist? WHAT DO YOU THINK? Will all triang | les be congruent if 2 sides and the nonin | ncluded angle have the sar | ne measure? |
| Sida_Sida_Angla (SSA) | evist because the third | t side could be a | longth |
| | | r side codid be a | iength. |
| <u></u> | 8 5 8 5 | Swinging door | |

Hypotenuse Leg (HL): a special case of SSA

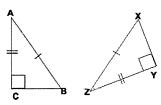
In a _____ triangle, you can find the measure of the third side if you know the measures of the other 2 sides by using

the ______. Thus, creating a special case of SSA known as

are ______ to the _____ and a _____ of another right triangle, then the two

_____. If the ______ and a _____ of one right triangle

triangles are ______.



Since the hypotenuse and leg of the right triangles are congruent, then $\triangle ABC \cong \triangle ZXY$ by the Hypotenuse Leg (HL) Theorem.

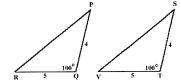
Since $\triangle ABC \cong \triangle ZXY$ are congruent by Hypotenuse-Leg (HL) Theorem, then ______ and

because

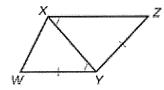
| RECAP | | |
|----------------------|-------------------|--|
| Side-Side-Side (SSS) | Angle-Angle (AAA) | |
| Side-Angle-Side | Side-Side-Angle | |
| (SAS) | (SSA or ASS) | |
| Hypotenuse-Leg | | |
| (HL) | | |

Examples: Determine if the triangles are congruent or not. If so, list the reason and a congruence statement. Also, list the congruent corresponding parts.

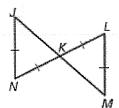
1.



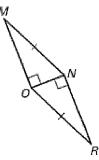
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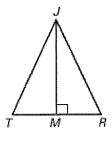
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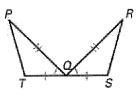


4.



5.





State the third congruence that must be given to prove that $\triangle ABC \cong \triangle FED$ using the indicated postulate or theorem.

7. Given: $\overline{BC} \cong \overline{ED}$, $\overline{AC} \cong \overline{FD}$, ____ \cong ___ using SAS.

Given: $\overline{AB}\cong \overline{FE}$, $\overline{AC}\cong \overline{FD}$, _____ \cong ____ using SSS.

Given: $\overline{BC} \cong \overline{ED}$, $\angle B$ is a right angle and $\angle B \cong \angle E$, $\underline{\qquad} \cong \underline{\qquad}$ using HL.

